

Audit Report



METEOROLOGICAL AND OCEANOGRAPHIC SUPPORT
IN THE PACIFIC THEATER

Report No. D-2001-151

June 28, 2001

Office of the Inspector General
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Acronyms

JTWC	Joint Typhoon Warning Center
METOC	Meteorological and Oceanographic
NAVAF	Navy-Air Force
NPMOC	Naval Pacific Meteorology and Oceanography Center
NPMOD	Naval Pacific Meteorology and Oceanography Detachment
OWS	Operational Weather Squadron
PACAF	U.S. Pacific Air Forces
USPACOM	U.S. Pacific Command



INSPECTOR GENERAL
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June 28, 2001

MEMORANDUM FOR COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
NAVAL INSPECTOR GENERAL

SUBJECT: Audit Report on Meteorological and Oceanographic Support in the Pacific Theater (Report No. D-2001-151)

We are providing this audit report for review and comment. This report is one in a series about DoD meteorological and oceanographic support. We considered comments from the Navy and the Air Force when preparing the final report. Based on management comments we revised and renumbered the recommendations.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The Director of Operations, U.S. Pacific Command, did not respond to the draft of this report. We request that the Director of Operations, U.S. Pacific Command, provide comments on Recommendation 2. We also request that the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka; the Commander, 18th Operational Support Squadron, Kadena Air Base; and the Commander, 35th Operational Support Squadron, Misawa Air Base, provide comments on Recommendations 3. and 4. We request all comments be provided by July 30, 2001.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Ms. Evelyn R. Klemstine at (703) 604-9172 (DSN 664-9172) (eklemstine@dodig.osd.mil) or Mr. Gary R. Padgett at (703) 604-9632 (DSN 664-9632) (gpadgett@dodig.osd.mil). See Appendix D for the report distribution. The audit team members are listed inside the back cover.

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Office of the Inspector General, DoD

Report No. D-2001-151

(Project No. D2000LG-0102.04)

June 28, 2001

Meteorological and Oceanographic Support in the Pacific Theater

Executive Summary

Introduction. This report is one in a series evaluating the effectiveness and efficiency of DoD meteorological and oceanographic support provided by the Military Departments to DoD and other governmental agencies.

Background. Chairman of the Joint Chiefs of Staff Instruction 3810.01A, "Meteorological and Oceanographic Operations," February 25, 1998, requires, when possible, the Military Departments to assist each other in accomplishing meteorological and oceanographic support in an efficient manner to avoid duplication and ensure commonality in the development of meteorological and oceanographic capabilities. In the Pacific theater, the Navy and the Air Force are the primary providers of meteorological and oceanographic support for DoD and U.S. national programs. Chairman of the Joint Chiefs of Staff Instruction 3810.01A requires each commander in chief to designate a senior meteorological and oceanographic officer responsible for coordinating all meteorological and oceanographic operations within the commander in chief's area of responsibility. Commander in Chief, U.S. Pacific Command Instruction 5420.9P, "Meteorological and Oceanographic Group for the U.S. Pacific Command," June 24, 1997, requires the U.S. Pacific Command senior meteorological and oceanographic officer to coordinate inter-Service meteorological and oceanographic matters to ensure maximum use of joint support in the Pacific theater.

Objectives. The overall objective of this self-initiated series of audits was to evaluate DoD meteorological and oceanographic services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative meteorological and oceanographic services and support to DoD and other governmental agencies. Specifically, this audit focused on evaluating the Military Departments' use of DoD infrastructure to determine whether meteorological and oceanographic services were provided in the most effective and efficient manner in the Pacific theater. We also evaluated the management control program as it related to the specific audit objective.

Results. The Navy and the Air Force were not providing regional meteorological and oceanographic services from joint centers in the Pacific theater. In addition, other than aviation weather support, the Navy and the Air Force provide Service-unique meteorological and oceanographic support from separate facilities on opposite sides of

the runways at Kadena Air Base and Misawa Air Base in Japan. There were opportunities for optimizing the use of meteorological and oceanographic resources through collocation and consolidation. See the Finding section for details on the audit results. The management controls we reviewed were effective in that no material management control weakness was identified. See Appendix A for details on our review of the management control program.

Summary of Recommendations. We recommend that the Director for Operations, U.S. Pacific Command, in coordination with the Service Components, perform a theater-wide evaluation to ensure Navy and Air Force meteorological and oceanographic support meet Commander in Chief, U.S. Pacific Command, and Service-unique mission requirements in the most efficient and effective manner. We recommend that the Oceanographer of the Navy and the Air Force Director of Weather reevaluate and support their analysis regarding the initiative to ensure the Navy and the Air Force regional weather centers in Hawaii provide the most effective and efficient meteorological and oceanographic support. We recommend the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka, Japan, the Commander, 18th Operational Support Squadron, Kadena Air Base, and the Commander, 35th Operational Support Squadron, Misawa Air Base collocate facilities and consolidate meteorological and oceanographic support in Japan at Kadena Air Base, and Misawa Air Base.

Management Comments. The Director of Operations, U.S. Pacific Command, did not comment on a draft of this report. The Air Force Deputy Chief of Staff for Air and Space Operations stated that the theatre-wide evaluation of meteorological and Oceanographic support were Service responsibilities under Title 10 and not a Commander in Chief function.

The Director, Environmental Compliance and Restoration Policy and the Oceanographer of the Navy agreed to reevaluate the initiative "Reduce Duplication at Operational Facilities - Regional Center," but disagreed with reevaluating the Joint Typhoon Warning Center as a model for cooperation because its mission is not easily applied to the wide-range of services provided by Navy regional centers. They nonconcurred with collocating facilities and consolidating meteorological and oceanographic support at Kadena and Misawa Air Bases, stating that the Navy and the Air Force have already completed a reduction of meteorological and oceanographic support at the bases and further consolidation is not expected to significantly increase the effectiveness and efficiency of support.

The Air Force Deputy Chief of Staff for Air and Space Operations nonconcurred with reevaluating the initiatives about Air Force and Navy regional weather support in Hawaii. He stated that the Air Force offered to evaluate the potential for combining meteorological and oceanographic support in Hawaii in the past; however, as a result of Air Force weather reengineering, their organizational structure changed. The Deputy Chief of Staff also nonconcurred with the recommendations to collocate facilities and consolidate meteorological and oceanographic support at Kadena and Misawa Air Bases, stating that the Navy and Air Force have already reaped economies and efficiencies from collocating aviation weather functions at the bases.

A discussion of management comments on the recommendations is in the Finding section of the report, a discussion of Air Force comments on the report is in Appendix C, and the complete text is in the Management Comments section.

Audit Response. Navy and Air Force comments were only partially responsive. We believe advances in technology could allow the Navy and the Air Force to more fully leverage their assets to achieve joint meteorological and oceanographic support in the Pacific theater as was done when the Commander in Chief, U.S. Pacific Command established the Joint Typhoon Warning Center. In light of that, the initiatives need to be reevaluated, to include a reexamination of the original analysis. Although the Navy and the Air Force may have previously consolidated support at Kadena and Misawa Air Bases; the consolidation only involved similar operational aviation weather support. We believe that all meteorological and oceanographic support should be reviewed at Kadena and Misawa Air Bases, not just the aviation function and that further efficiencies can be achieved through consolidation.

As a result of comments, we revised and redirected the recommendation. Therefore, we request that Director of Operations, U.S. Pacific Command, the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka; the Commander, 18th Operational Support Squadron; and the Commander, 35th Operational Support Squadron, provide comments by July 30, 2001.

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Background

Chairman of the Joint Chiefs of Staff Instruction 3810.01A, "Meteorological and Oceanographic Operations," February 25, 1998 (the Instruction), requires, when possible, the Military Departments to assist each other in accomplishing meteorological and oceanographic (METOC) support in an efficient manner to avoid duplication and ensure commonality in the development of METOC capabilities. The Instruction specifies that each commander in chief is ultimately responsible for the direction of METOC assets within the area of responsibility. In addition, the Instruction also requires each commander in chief to designate a senior METOC officer responsible for coordinating all METOC operations within the commander in chief's area of responsibility. Commander in Chief, U.S. Pacific Command Instruction 5420.9P, "Meteorological and Oceanographic Group for the U.S. Pacific Command," June 24, 1997, established METOC Group, U.S. Pacific Command (USPACOM), and assigns responsibilities to the Services and the National Oceanic and Atmospheric Administration for coordinating METOC issues and providing METOC support in the USPACOM area of responsibility. In addition, Commander in Chief, USPACOM Instruction 5420.9P states that the USPACOM senior METOC officer, under the guidance of the Director for Operations, USPACOM, and in cooperation with the lead METOC representative from each Service and the National Oceanic and Atmospheric Administration, is responsible for coordinating inter-Service METOC matters to ensure maximum use of joint METOC support in the Pacific theater.

Military Department Responsibilities. The Navy and the Air Force provide METOC support for Service-unique and joint operations in the Pacific theater through fundamentally similar three-tier organizational structures.

Army. Public Law 253, "National Security Act of 1947," chapter 343, July 26, 1947, assigns the Air Force responsibility for providing METOC support for Army operations. In the Pacific theater, the Navy and the Air Force are the primary providers of METOC support for DoD and U.S. national programs. In addition, the Navy and Air Force also provide METOC support to other governmental agencies and international partners. The Weather Officer, U.S. Army Pacific Staff, is responsible for ensuring Army METOC needs in the Pacific are met by the Air Force.

Navy. The Fleet Oceanographer, Commander in Chief, U.S. Pacific Fleet, while not assigned to the combatant command, is responsible for providing METOC services, including forecasts and products tailored to specific maritime and littoral operating areas, in support of Navy and joint operations in the Pacific. The Navy primarily provides METOC services through a three-tier organizational structure to the Commander in Chief, USPACOM, by disseminating METOC products through DoD-approved communication systems. Strategic-level centers in the continental United States provide global and fine-scale numerical models and real-time oceanographic products needed by the three Naval Pacific Meteorology and Oceanography Centers (NPMOCs) at Pearl Harbor, Hawaii; San Diego, California; and Yokosuka, Japan, to initialize and create regional forecasts for the Pacific theater. The theater

METOC centers tailor numerical models to ensure regional forecasts support operational requirements for the USPACOM area of responsibility. On-board Operational Aerography Divisions¹ and Naval Pacific Meteorology and Oceanography Detachments (NPMODs) in Japan at Naval Air Facility Atsugi, Kadena Air Base, and Misawa Air Base are tactical units that provide on-scene METOC support for Navy operations afloat and ashore by incorporating local observations into regional forecasts to determine the impact METOC conditions have on specific operations and weapon systems. The Navy, in cooperation with the Air Force, provides resources to issue tropical cyclone forecasts and warnings for the USPACOM area of responsibility² at the Joint Typhoon Warning Center (JTWC) in Hawaii.

Air Force. The Chief, Weather Division, Directorate of Air and Space Operations, U.S. Pacific Air Forces (PACAF) headquarters, is responsible for providing meteorological services, including forecasts and products tailored to specific air-land areas, in support of Army, Air Force, and joint operations in the Pacific. The Air Force primarily provides meteorological services through a three-tier organizational structure to the commander in chief by disseminating meteorological products through DoD-approved communication systems. Strategic-level production centers in the continental United States provide numerical models and accurate real-time meteorological databases needed by the 11th Operational Weather Squadron (OWS) at Elmendorf Air Force Base, Alaska; the 17th OWS at Hickam Air Force Base, Hawaii; and the 20th OWS at Yokota Air Base, Japan, to generate regional forecasts in the Pacific theater. The three theater support centers tailor regional forecasts and use products indigenous to the operating area to provide fine-scale meteorological forecasts needed for base resource protection and base-level support in the Pacific. The 18th Operational Support Squadron Weather Flight at Kadena Air Base, the 35th Operational Support Squadron Weather Flight at Misawa Air Base, and the 607th Weather Squadron at Yongsan Army Installation, Korea, are tactical units that evaluate and apply OWS-generated regional forecasts to specific missions and weapon systems to determine the impact of meteorological conditions on local operations. The Air Force is also responsible for providing satellite analysis and tropical cyclone reconnaissance and surveillance forecasts at the JTWC.

1995 Base Realignment and Closure. Public Law 101-510, "Defense Base Closure and Realignment Act of 1990" (10 U.S.C. 2687), as amended, established the Defense Base Closure and Realignment Commission to oversee closure and realignment of U.S. military installations. In its "DoD Base Closure and Realignment Report," March 1995, the Commission recommended disestablishing the NPMOC in Guam and relocating the JTWC to NPMOC, Pearl Harbor. Although the NPMOC in Guam was closed, the Commander in Chief, U.S. Pacific Fleet, validated the need for continuing METOC services in the western Pacific and the Navy redirected support and relocated resources to a newly upgraded NPMOC in Yokosuka.

¹Operational Aerography Divisions are assigned to ships and provide on-scene METOC services to ensure operational safety and optimal use of Navy weapon systems.

²The PACOM area of responsibility includes more than 90 percent of the world's tropical cyclone activity.

Air Force Reengineering Plan. U.S. Air Force Program Action Directive 97-10, "Reengineering Actions for Air Force Weather," December 1, 1997, directs the end-to-end restructuring of Air Force weather to provide an improved mission focus, establish numbered Air Force-aligned OWSs, and improve Air Force weather capabilities. Program Action Directive 97-10 states that Air Force weather reengineering occurred because of decreased personnel resources and experience levels at weather stations, different support structures required to provide meteorological services in peacetime and wartime, inadequate training, and less-than-optimal organizational career paths. Program Action Directive 97-10 also states that Air Force weather reengineering was needed to integrate Air Force weather into joint operations and enable Air Force weather to provide products and services that meet specific operator needs.

Objectives

This report is one in a series evaluating the effectiveness and efficiency of DoD METOC support provided by the Military Departments to DoD and other governmental agencies. The overall objective of this self-initiated series of audits was to evaluate DoD METOC services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative METOC support to DoD and other governmental agencies. Specifically, this audit focused on evaluating the Military Departments' use of DoD infrastructure to determine whether METOC services were provided in the most effective and efficient manner in the Pacific theater. We also evaluated the management control program as it related to the specific audit objective. See Appendix A for a discussion of the audit scope and methodology, our review of the management control program, and prior coverage.

DoD Meteorological and Oceanographic Support in the Pacific

The Navy and the Air Force were not providing regional METOC services from joint METOC centers in the Pacific theater. In addition, other than aviation weather support, the Navy and the Air Force provide Service-unique METOC support from separate facilities on opposite sides of the runways at Kadena and Misawa Air Bases in Japan. METOC Group, USPACOM, was established to coordinate METOC issues that affect operations within the Commander in Chief, USPACOM, area of responsibility. However, METOC Group, USPACOM, did not evaluate, in coordination with the Service Components, whether the 17th OWS and the planned 20th OWS could be collocated at existing DoD facilities already providing similar METOC services, or at a single location in the Pacific theater, and overlapping METOC functions consolidated. In addition, the Oceanographer of the Navy and the Air Force Director of Weather did not fully consider collocating facilities and improving operational efficiency by consolidating METOC functions at Kadena and Misawa Air Bases. As a result, the Navy and the Air Force were not evaluating opportunities for providing METOC support in the most efficient possible manner.

Navy and Air Force Cooperative Initiatives

Navy-Air Force Agreement. On January 13, 1993, the Oceanographer of the Navy and the Air Force Director of Weather signed a memorandum of agreement, "Navy-Air Force Cooperation Implementation Action Memorandum" (NAVAF Agreement), to evaluate potential areas of cooperation between the Navy and the Air Force and improve meteorological support problems identified during Operation Desert Storm. The NAVAF Agreement identifies 19 initiatives, including reducing overlapping base aviation and theater meteorological support and examining the JTWC as a model for cooperation to support military operations in the Pacific theater. Of the 19 initiatives, 16 were accepted for implementation, 2 were rejected, and 1 was returned for further investigation. As of March 2001, only five initiatives had been completed.

Reduction of Base Aviation Weather Support. The NAVAF Agreement identifies Andrews Air Force Base, Maryland, and Kadena Air Base as two locations where the Navy and the Air Force provide overlapping base-level aviation forecasts in support of military operations. The NAVAF Agreement identifies that, at Misawa Air Base, the Air Force provides aviation forecasts for all airfield operations in addition to other Air Force-unique meteorological services needed to meet mission requirements while the Navy provides METOC services other than aviation weather support to meet its mission requirements. The NAVAF Agreement recommends that the Navy and the Air Force require the Service owning the base to be responsible for providing all aviation forecasts needed to support local operations in addition to Service-unique support needed to meet mission requirements. With the

exception of aviation forecasts, the NAVAf Agreement states that the base tenant (the Navy) will continue to provide Service-unique METOC support. The Navy and the Air Force accepted the initiative and, as a result, the Air Force combat weather teams at Andrews Air Force Base and Kadena Air Base provide aviation forecasts for all DoD operations at those bases.

Reduce Duplication at Operational Facilities Regional Centers. The NAVAf Agreement identifies four pairs of Navy and Air Force operational METOC centers, including the Naval Western Oceanography Center and the Air Force Pacific Weather Support Unit in Oahu, Hawaii, as one of the potential operational METOC centers to be consolidated into a multi-Service METOC center. However, that initiative was rejected because the Services concluded that the missions and areas of responsibility for the METOC centers under consideration were too different to warrant consolidating theater METOC support. In addition, at least one of the Navy and Air Force METOC centers under consideration had either downsized its original mission or closed. Although the four pairs of Navy and Air Force operational METOC centers identified for potential consolidation in the NAVAf agreement had been either downsized or closed, the validity of the concept of consolidating multi-Service METOC centers continues to be valid.

JTWC Model. The NAVAf Agreement identifies that the JTWC is an example of long-term cooperation between the Navy and the Air Force for providing joint METOC support. The NAVAf Agreement initiative states that the Navy and the Air Force should examine whether the JTWC is a model for future cooperative efforts between the Services; however, the initiative was rejected. As a result of examining the initiative, the Navy and Air Force determined that the JTWC is not a suitable prototype for future cooperative efforts unless organizational changes occur. As of May 2001, the Navy and the Air Force had not provided documentation to support their conclusion that the JTWC was an inadequate model for future joint METOC cooperative efforts.

The NAVAf Agreement provides a framework for a long-term cooperative effort with the goal of identifying ways in which the Navy and the Air Force can provide METOC support with greater efficiency. The two initiatives that were rejected should be reevaluated.

Other Cooperative Initiatives. In a January 1998 memorandum, "Co-Location of Hawaiian Regional Weather Centers," the Air Force requested Navy support in exploring the possibility of collocating Navy and Air Force centers in Hawaii to provide cooperative METOC support for military operations throughout the USPACOM area of responsibility. The Navy did not respond to the Air Force memorandum. In a second memorandum, "NAVAf 21 Studies," April 2000, the Air Force expressed a continued need to explore the possibility of establishing a more robust joint METOC center. In response to the April 2000 memorandum, the Navy replied to the Air Force Director of Weather by memorandum, "NAVAf 21 Studies," May 17, 2000, stating that although DoD METOC support must cooperatively progress, the Navy did not plan to develop a joint METOC center in the near future. The Navy and the Air Force did not further evaluate the feasibility of developing a joint METOC center in Hawaii.

Regional METOC Support

The Navy and the Air Force were not providing regional METOC services from joint METOC centers in the Pacific theater because METOC Group, USPACOM, had not evaluated, in coordination with the Service Components, whether the 17th OWS and the planned 20th OWS could be collocated at existing DoD facilities already providing similar METOC services, or at a single location in the Pacific theater, and overlapping METOC functions consolidated. During the audit, we visited four of six regional support centers in the Pacific: the NPMOCs in Pearl Harbor and Yokosuka, the 17th OWS, and the planned 20th OWS.³ We did not visit NPMOC, San Diego, or the 11th OWS. METOC Group, USPACOM, was established to coordinate METOC issues that affect operations within the Commander in Chief, USPACOM, area of responsibility.

Theater METOC Centers in the Pacific. The "Naval Meteorology and Oceanography Command Strategic Plan," May 1997, requires Navy METOC support to ensure readiness of naval forces by aligning theater METOC support in fleet concentration areas. Program Action Directive 97-10 requires the Air Force to provide meteorological services through an improved operational and organizational structure by transferring routine, 24-hour forecasting, aircrew aviation briefings, and selected meteorological advisory and warning responsibilities from tactical- to operational-level structures.

METOC Support in Hawaii. Collocating facilities and consolidating overlapping METOC functions of NPMOC/JTWC, Pearl Harbor, and the 17th OWS could result in DoD resources being used in a more efficient manner. NPMOC/JTWC, Pearl Harbor, and the 17th OWS provide a full spectrum of regional METOC services for DoD and other governmental agencies. NPMOC/JTWC provides acoustic predictions for maritime operations, transient aircraft briefings, deployable mobile environmental teams,⁴ local area forecasts, optimum path aircraft routing system services, and sea advisories and warnings for Navy, Coast Guard, and joint operations. PACAF Programming Plan 98-02, "Reengineering Actions for Air Force Weather," January 10, 2001, requires the 17th OWS to attain initial operational capability for providing meteorological support for the 13th Air Force, units assigned to Andersen Air Base, and the newly established 502nd Air Operations Group at Hickam Air Force Base by July 2001. In addition, the 17th OWS will be required to provide air refueling, drop zone, landing zone, target, and transient aircraft forecasts; aviation weather support for the newly established PACAF Deployable Air Operations Center; and terminal aerodrome forecasts⁵ for Army, Air Force, and joint operations. Although NPMOC is collocated with the

³At the time of our visit, the 17th and 20th OWSs were not operational.

⁴Mobile environmental teams are forward-deployed components that provide short-term, on-scene METOC services to ships and organizations that are not permanently assigned METOC personnel.

⁵Terminal aerodrome forecasts are concise statements of expected meteorological conditions at an airfield during a specified period (usually 24 hours).

JTWC, METOC Group, USPACOM, did not evaluate, in coordination with the Service Components, whether the 17th OWS could be collocated with NPMOC/JTWC and overlapping METOC functions consolidated.

On February 1, 2001, the Deputy Assistant Inspector General for Auditing, DoD, issued a memorandum to the Commander in Chief, USPACOM, pertaining to potential duplication of weather infrastructure and services in the Pacific (see Appendix B). Specifically, PACAF did not coordinate with the U.S. Pacific Fleet during Air Force reengineering to determine whether the mission of the 17th OWS could be performed at NPMOC/JTWC. As a result, the 17th OWS could duplicate weather infrastructure and forecasting capabilities already provided by NPMOC/JTWC. On March 2, 2001, the Commander in Chief, USPACOM, issued a memorandum, "USCINCPAC Response to the Department of Defense Inspector General Evaluation of Weather Support in the Pacific Theater," stating that given current equipment, existing infrastructure, and personnel at NPMOC/JTWC, Pearl Harbor, it is appropriate for the Air Force to establish the 17th OWS. However, the Commander in Chief, USPACOM, also states that from an efficiency perspective, collocating Navy and Air Force METOC operations in Hawaii merits further study. In addition, the Commander in Chief, USPACOM, states that the JTWC is a good location to develop and expand inter-Service synergy. Therefore, the Commander in Chief, USPACOM, tasked his staff to determine the requirements and develop a proposal for the Joint Staff to establish a cooperative METOC architecture in Hawaii and review additional opportunities to expand inter-Service synergy throughout the USPACOM area of responsibility. Although the Commander in Chief, USPACOM, states that the Commander, PACAF, conducted an evaluation to determine the validity of a separate weather facility at Hickam Air Force Base, the Commander, PACAF, states that his staff was in the process of preparing an evaluation of weather support in the Pacific. As of May 2001, we had not been provided any documentation to support that an evaluation was conducted by the Commander, PACAF, to support the validity of a separate weather facility at Hickam Air Force Base.

METOC Support in Japan. Collocating facilities and consolidating overlapping METOC functions of NPMOC, Yokosuka, and the planned 20th OWS could result in DoD resources being used in a more efficient manner. NPMOC, Yokosuka, and the planned 20th OWS provide a full spectrum of regional METOC services for DoD and other governmental agencies. NPMOC, Yokosuka, provides acoustic predictions for maritime operations, deployable mobile environmental teams, local area forecasts, optimum path aircraft routing system services, optimum track ship routing⁶ services, and sea advisories and warnings for Navy and joint operations. Program Action Directive 97-10 directs the Air Force to establish the 20th OWS and PACAF Programming Plan 98-02 requires the 20th OWS to attain initial operational capability for providing theater meteorological support for the 5th Air Force area of responsibility by April 2001. In addition, the planned 20th OWS will be

⁶Optimum track ship routing is a Navy advisory service designed to minimize en route time and fuel consumption while ensuring minimal risk from damage caused by tropical storms, high seas, and sea ice.

required to provide air refueling, drop zone, landing zone, target, and transient aircraft forecasts; and terminal aerodrome forecasts for Army, Air Force, and joint operations.

Program Action Directive 97-10 also directs the Air Force to designate the 607th Weather Squadron as an OWS responsible for providing regional meteorological advisories, forecasts, and warnings in support of Army, Air Force, and joint operations within the 7th Air Force area of responsibility. However, during the audit, the Air Force Director of Weather and the PACAF Director of Air and Space Operations initiated a plan to consolidate regional forecast responsibilities of the 607th Weather Squadron and the planned 20th OWS in an effort to more efficiently use DoD resources. As regional OWSs were established, the Air Force Director of Weather recognized that a more efficient organizational structure could be achieved by consolidating the functions of the regional centers in Japan and Korea. PACAF Programming Plan 98-02 directs the 607th Weather Squadron to revert back to its former status as a combat weather team and provide tactical support to the 607th Air Support Operations Group in Korea.

As a result of the Air Force plan to consolidate regional forecasting responsibilities of the 607th Weather Squadron and the 20th OWS, the 20th OWS will also be responsible for providing regional meteorological forecasting services for the 7th Air Force area of responsibility. Although NPMOC, Yokosuka, is located in close proximity to the planned 20th OWS, METOC Group, USPACOM, did not evaluate, in coordination with the Service Components, whether the planned 20th OWS could be collocated with NPMOC, Yokosuka, or at a single location, and overlapping METOC functions consolidated.

Navy realignment of regional METOC support in the Pacific theater occurred primarily because of recommendations from the 1995 DoD Base Closure and Realignment Report and subsequent actions taken by the Navy METOC community. As a result, regional METOC support for the U.S. Pacific Fleet is provided at the Pearl Harbor and Yokosuka NPMOCs. At the time the Navy realigned regional METOC support in the Pacific theater to fleet concentration areas, the Air Force did not provide meteorological support from forward-deployed theater centers. Program Action Directive 97-10 directs the Air Force to establish the 17th OWS and the 20th OWS in the Pacific theater to provide forward-deployed theater support. As a result, the regional Air Force OWSs will be located in close proximity to NPMOCs; however, METOC Group, USPACOM, had not evaluated, in coordination with the Service Components, whether the 17th OWS and the planned 20th OWS could be collocated at existing DoD facilities or at a single location. Adequate and continuous cooperation between the Navy and the Air Force is needed to reduce METOC infrastructure, consolidate overlapping functions, and provide effective and efficient METOC services in Hawaii and Japan.

Base-Level METOC Support

At NPMOD Kadena and Misawa the Navy and the Air Force had collocated aviation weather support. However, the Navy and the Air Force continued to provide Service-unique METOC support from separate facilities on opposite sides of the runways at Kadena and Misawa Air Bases in Japan because the Oceanographer of the Navy and the Air Force Director of Weather did not fully consider collocating facilities and improving operational efficiency by consolidating METOC functions at Kadena and Misawa Air Bases. We visited three Naval NPMOC, Yokosuka, detachments in the Pacific: the NPMODs in Atsugi, Kadena, and Misawa. NPMOD Atsugi is the only METOC detachment at that military installation. However, Kadena and Misawa Air Bases both had Navy and Air Force METOC units.

METOC Support at Kadena Air Base. NPMOD Kadena and the 18th Operational Support Squadron Weather Flight provide mission-specific METOC services for Service-unique and joint operations at Kadena Air Base. NPMOD Kadena provides climatological studies, surface and undersea warfare support briefings for local operations, and acoustic range predictions and sensor performance data for the Japan Maritime Self Defense Force and maritime patrol aircraft operating from Naval Air Facility Kadena. In addition, NPMOD Kadena provides recommendations about the effects of METOC conditions on base operations to the Commander, Fleet Activities Okinawa. The 18th Operational Support Squadron Weather Flight provides recommendations about the effects of meteorological conditions on specific missions and weapon systems for the 909th Air Refueling Squadron, the 82nd Reconnaissance Squadron, and the 44th and 67th Fighter Squadrons. In addition, the 18th Operational Support Squadron Weather Flight provides meteorological observations for all airfield operations, aircraft flight briefings, and tailored terminal aerodrome forecasts needed by Navy, Air Force, and transient aircrews for takeoffs and landings.

METOC Support at Misawa Air Base. NPMOD Misawa and the 35th Operational Support Squadron Weather Flight had consolidated aviation weather specific support; however, mission-specific METOC services for Service-unique and joint operations at Misawa Air Base were not collocated. NPMOD Misawa provides acoustic range predictions and recommendations about the effects of METOC conditions on maritime patrol aircraft operating from Naval Air Facility Misawa, and it provides mine, surface, and undersea warfare briefings for local operations. The 35th Operational Support Squadron Weather Flight provides recommendations about the effects of meteorological conditions on specific operations for the 3rd Space Surveillance Squadron, the 13th and 14th Fighter Squadrons, and joint air operations of the Air Force and the Japan Air Self Defense Force. In addition, the 35th Operational Support Squadron Weather Flight provides aviation flight briefings and tailored terminal aerodrome forecasts needed by Navy, Air Force, and transient aircrews for takeoffs and landings. In accordance with the December 6, 1988, memorandum of agreement between the 432nd Tactical Fighter Wing (now the 35th Fighter Wing) and the Japan Air Self Defense Force at Misawa Air Base, "Airfield Operations," the Japan Air Self Defense Force provides meteorological observations for all airfield operations at Misawa Air Base.

According to the NAVAf Agreement, the Air Force is responsible for providing all aviation forecasts at Kadena and Misawa Air Bases because the bases are Air Force bases. Although the Navy and the Air Force have implemented the NAVAf Agreement initiative to reduce overlapping base aviation forecasts by consolidating similar operational aviation weather support at one location, they continue to provide Service-unique METOC support from separate facilities on opposite sides of the runways at Kadena and Misawa Air Bases. According to officials at NPMOD Kadena, Navy and Air Force METOC personnel have discussed the possibility of collocating facilities and consolidating functions; however, as of May 2001, an official plan had not been coordinated with the Oceanographer of the Navy or the Air Force Director of Weather.

Optimum Use of DoD METOC Resources

The Navy and the Air Force could increase operational efficiency by using equipment, infrastructure, and personnel in a more effective manner when providing METOC support from the six regional centers in the Pacific theater and the five base-level organizations visited in Japan.

Military Department Strategic METOC Goals. The "Naval Meteorology and Oceanography Command Strategic Plan" directs the Navy to provide METOC services that enhance warfighting capabilities while ensuring optimum use of METOC resources. The "Air Force Weather Strategic Plan," August 1, 1997 (updated June 28, 2000), states that the Air Force must continuously leverage capabilities developed throughout the METOC community to meet future requirements and improve forecast accuracy for the warfighter. In December 1997, the Air Force initiated a total end-to-end restructuring of METOC support for Army and Air Force operations, beginning with an improved operational concept and organizational structure. Program Action Directive 97-10 implements the "Air Force Weather Strategic Plan" by reducing the amount of equipment and the number of personnel at combat weather teams and redistributing those resources to OWSs.

Personnel Resources at Regional Centers in the Pacific. Collocating facilities and consolidating overlapping METOC functions at NPMOC, Yokosuka, and the planned 20th OWS could result in DoD resources being used in a more efficient manner. Navy and Air Force regional forecasting centers in the Pacific provide METOC services in support of DoD operations 24 hours a day, 7 days a week, with limited personnel. At NPMOC, Yokosuka, 88 Navy personnel provide anti-submarine warfare briefings; aviation forecasts; deployable, on-scene METOC services for the 7th Fleet; and optimum track ship routing services. When the planned 20th OWS is fully operational, 58 Air Force personnel, including 23 personnel reassigned from the 607th Weather Squadron, will provide regional aviation forecasts and tailored weather advisories and warnings for the 5th and 7th Air Force areas of responsibility. However, until an evaluation is performed to determine whether NPMOC, Yokosuka, and the planned 20th OWS could be collocated at existing DoD facilities already providing similar services, or at a single location, the most efficient use of resources is unknown. By evaluating the possibility of

collocating facilities and consolidating overlapping METOC functions of regional METOC centers in Japan, the Navy and the Air Force can ensure mission requirements of the Commander in Chief, USPACOM, are efficiently and effectively achieved by leveraging each other's resources.

METOC Equipment at Regional Centers in the Pacific. Collocating facilities and consolidating overlapping METOC functions of NPMOC/JTWC, Pearl Harbor, and the 17th OWS could result in a more optimal use of resources. Navy and Air Force regional forecasting centers in the Pacific collect, store, process, and disseminate METOC information and products through Service-unique and common DoD communication systems and equipment. At NPMOC/JTWC, Pearl Harbor, the Navy uses 91 worldwide Automated Surface Observing System sensors to collect dew point, precipitation, temperature, visibility, and wind observations needed to provide aviation forecasts. The Navy also uses a Distributed Atmospheric Mesoscale Prediction System workstation to obtain real-time cloud visibility, radar, temperature, and wind observations needed to form accurate 24-hour forecasts. In addition, six METOC Integrated Data Display Systems process optimum path aircraft routing system information, radar data, and satellite imagery and display and disseminate alphanumeric METOC data needed to support naval and transient aircraft in the Pacific theater.

The 17th OWS, when fully operational, will use the OWS Production System (phase II) to enhance computer hardware and application software used by forecasters to access timely meteorological data and to produce and disseminate forecasts. The Air Force plans to install nine OWS Production System (phase II) workstations, including cable, network switches, and servers, at the 17th OWS and two additional systems and all associated equipment at NPMOC/JTWC, Pearl Harbor. In addition, two Automated Weather Distribution Systems that are needed by the Air Force to provide worldwide, computerized forecasting, analysis, and aircrew briefings will be installed at the 17th OWS.

However, until an evaluation is performed to determine whether the 17th OWS could be collocated at the NPMOC/JTWC, Pearl Harbor, how the equipment could be used most efficiently was unknown. By evaluating the possibility of collocating regional METOC centers in Hawaii and consolidating overlapping METOC functions, the Navy and the Air Force can ensure mission requirements of the Commander in Chief, USPACOM, are met efficiently and effectively by leveraging each other's resources.

The Navy and the Air Force provide regional METOC services from six regional centers in the Pacific theater. We reviewed METOC support at four of the six regional centers. At those four regional METOC centers, METOC Group, USPACOM, had not evaluated, in coordination with the Service Components, whether the reengineered Air Force operational weather structure could be collocated at existing DoD facilities already providing similar services, or at a single location, and overlapping METOC functions consolidated. The remaining two regional METOC centers, NPMOC, San Diego, and 11th OWS, should also be reviewed to determine whether the most efficient use of DoD resources was achieved. As a result, an overall evaluation of Pacific theater METOC support should be performed to ensure joint regional and

Service-unique requirements are effectively and efficiently met. In addition, the Navy and the Air Force also should review collocation of facilities and consolidation of METOC support functions at base-level organizations in Japan at Kadena and Misawa Air Bases. By reducing DoD METOC infrastructure, a more optimal use of limited equipment and personnel resources could be achieved.

Future METOC Support Considerations

Chairman of the Joint Chiefs of Staff Instruction 3810.01A requires, when possible, that the Military Departments assist each other in accomplishing METOC support in an efficient manner to avoid duplication. To ensure the optimum use of warfighter capabilities and resources, the Navy and the Air Force should continually seek more efficient and effective methods of providing METOC support. In May 1995, DoD, the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration began to consolidate⁷ separate civilian and military meteorological satellite systems into a single national system: the National Polar-Orbiting Operational Environmental Satellite System. The National Polar-Orbiting Operational Environmental Satellite System integrates advances in computer technology, modernized communication systems, and satellite operations by establishing a single, converged, operational system that can reduce overlap while continuing to satisfy unique requirements of the civil and national security communities. By consolidating separate, Service-unique regional centers into joint, theater METOC centers, the Navy and the Air Force have an opportunity to reduce overlap, leverage METOC resources, and promote joint METOC support just as DoD has done by converging separate meteorological satellite systems into the National Polar-Orbiting Operational Environmental Satellite System.

Recommendations, Management Comments, and Audit Response

Renumbered, Revised, and Redirected Recommendations. Summaries of management comments on the finding and recommendations and our audit responses are in Appendix C. As a result of management comments, we renumbered draft Recommendation 1.a., now Recommendation 1. We revised and renumbered draft Recommendation 1.b., now Recommendation 3., and redirected it to the Commanding Officer, NPMOC, Yokosuka, and the Commander, 18th Operational Support Squadron. We revised and renumbered draft Recommendation 1.c., now Recommendation 4., and redirected it to the Commanding Officer, NPMOC, Yokosuka, and the Commander, 35th Operational Support Squadron. We revised and redirected Recommendations 3. and 4. to be more specific and to be

⁷Mandated by Presidential Decision Directive, National Science and Technology Council – 2, May 5, 1994.

implemented by the commands involved rather than at the headquarters level. We also revised draft Recommendation 2. to clarify the intent of the recommendation.

1. We recommend that the Oceanographer of the Navy and the Air Force Director of Weather reevaluate and support the analysis regarding the initiatives "Examine the Joint Typhoon Warning Center as a Model for Cooperation" and "Reduce Duplication at Operational Facilities - Regional Centers," to ensure the Navy and the Air Force provide DoD the most effective and efficient meteorological and oceanographic support.

Navy Comments. The Director, Environmental Compliance and Restoration Policy, in coordination with the Oceanographer of the Navy, nonconcurred with reevaluating the initiative "Examine the Joint Typhoon Warning Center as a Model for Cooperation," stating that the mission of the JTWC is focused on tropical storm support and its concept of operation is not easily applied to the wide range of METOC support provided by Navy regional centers. However, they concurred with reevaluating the initiative "Reduce Duplication at Operational Facilities - Regional Centers."

Air Force Response. The Air Force Deputy Chief of Staff for Air and Space Operations nonconcurred, stating that the Air Force had offered to evaluate the potential for combining METOC support in Hawaii in 1998 and again in 2000; however, as a result of Air Force weather reengineering, its organizational structure changed. In addition, the Air Force stated that differences in the Navy and the Air Force organizational command and control structure would pose a command and control challenge for Navy and Air Force METOC providers.

Audit Response. We consider the Navy and the Air Force comments partially responsive to the intent of the recommendation. Although the Navy stated that the JTWC concept of operations is not easily applied to the wide range of METOC support and services provided by regional centers, one of the 19 NAVAFA Agreement initiatives stated that the JTWC should be examined as a "model" for future cooperation between the Services. As of May 2001, no evidence existed to support that JTWC is not a model for cooperative efforts between the Services. The intent of the recommendation was to review collocating METOC activities and combine overlapping weather support functions in those geographic areas where efficiencies could be achieved without impacting operational weather support to the Services and the warfighter. We believe it would be beneficial to the Department if the Air Force would reevaluate the initiative about reducing duplication as the Navy suggested. We renumbered draft Recommendation 1.a., now Recommendation 1., and request that the Navy and the Air Force reconsider their position and provide additional comments on the final report.

2. We recommend that the Director for Operations, U.S. Pacific Command, in coordination with the Service Components, perform a theater-wide evaluation of meteorological and oceanographic support to ensure Navy and Air Force meteorological and oceanographic services meet Commander in Chief, U.S. Pacific Command, and Service-unique mission requirements in the most efficient and effective manner by:

a. Evaluating the feasibility of forming a joint meteorological and oceanographic center in Hawaii to ensure joint requirements are efficiently and effectively met by collocating the Naval Pacific Meteorology and Oceanography Center and Joint Typhoon Warning Center, Pearl Harbor, and the Air Force 17th Operational Weather Squadron at Hickam Air Force Base and by consolidating overlapping meteorological and oceanographic functions.

b. Evaluating the feasibility of forming a joint meteorological and oceanographic center in Japan to ensure joint requirements are efficiently and effectively met by collocating the Naval Pacific Meteorology and Oceanography Center, Yokosuka, and the planned Air Force 20th Operational Weather Squadron at Yokota Air Base and by consolidating overlapping meteorological and oceanographic functions.

c. Reviewing meteorological and oceanographic services provided at the Naval Pacific Meteorological and Oceanographic Center, San Diego, California, and the 11th Operational Weather Squadron at Elmendorf Air Force Base, Alaska.

Management Comments Required. The Director of Operations, U.S. Pacific Command, did not comment on a draft of this report. Therefore, we request that the Director of Operations, U.S. Pacific Command, provide comments on the final report.

Navy Comments. The Director, Environmental Compliance and Restoration Policy, in coordination with the Oceanographer of the Navy, concurred stating that the need exists for a theater-wide evaluation of METOC support in the Pacific. Further, the Services should be responsible for ensuring that their METOC support meets Commander in Chief, USPACOM, and Service-unique mission requirements in the most efficient and effective manner.

Air Force Comments. The Air Force Deputy Chief of Staff for Air and Space Operations nonconcurred stating that the Services, and not the unified commander, are responsible for evaluating whether METOC services meet Commander in Chief, USPACOM, and Service-unique mission requirements in the most efficient and effective manner. The recommendation runs counter to Title 10 United States Code that states this is a Services responsibility.

Audit Response. In response to Navy and Air Force comments, we revised draft Recommendation 2. by recommending that the action be coordinated with the Service Components. Therefore, we request the Navy and the Air Force provide comments in response to the final report.

3. We recommend that the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka, and the Commander, 18th Operational Support Squadron, determine whether further operational efficiencies, other than aviation weather support, can be achieved by

collocating facilities and consolidating meteorological and oceanographic support provided by the Naval Pacific Meteorology and Oceanography Detachment and the Air Force 35th Operational Support Squadron Weather Flight at Kadena Air Base, Japan.

4. We recommend that the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka, and the Commander, 35th Operational Support Squadron, determine whether further operational efficiencies, other than aviation weather support, can be achieved by collocating facilities and consolidating meteorological and oceanographic support provided by the Naval Pacific Meteorology and Oceanography Detachment and the Air Force 35th Operational Support Squadron Weather Flight at Misawa Air Base, Japan.

Navy Comments. The Director, Environmental Compliance and Restoration Policy, in coordination with the Oceanographer of the Navy, nonconcurrent, stating that the Navy and the Air Force have already completed a reduction of METOC support at Kadena Air Base and Misawa Air Base. In addition, further consolidation of METOC support is not expected to significantly increase the effectiveness and efficiency of support but, rather, may negatively impact flight crew operations. Further, any decision on further consolidation is best left to the Service Components and their subordinate units on a case-by-case basis.

Air Force Comments. The Air Force Deputy Chief of Staff for Air and Space Operations nonconcurrent, stating that the Navy and the Air Force have already reaped economies and efficiencies from collocating aviation weather functions at Kadena Air Base and Misawa Air Base. The Air Force also stated that the Services should determine efficiencies that may be achieved by consolidation.

Audit Response. Although the Navy and the Air Force nonconcurrent, their comments are partially responsive to the intent of the recommendation. The Navy and the Air Force stated that a joint review of METOC support was conducted; however, the review only evaluated consolidating similar operational aviation weather support at Kadena Air Base and Misawa Air Base. Although the Navy stated that further consolidation could negatively impact flight crew operations, until Navy and Air Force subordinate units evaluate collocating and further consolidating METOC support, the impact to Navy and Air Force operational units is unknown. The intent of the recommendation was to determine whether further operational efficiencies, other than aviation weather support, could be achieved by collocating and consolidating METOC functions at Kadena Air Base and Misawa Air Base. As a result of Navy and Air Force comments, we revised, redirected, and renumbered draft Recommendation 1.b., now Recommendation 3, and draft Recommendation 1.c., now Recommendation 4. We request that the Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka, the Commander, 18th Operational Support Squadron, and the Commander 35th Operational Support Squadron determine whether further operational efficiencies, other than aviation weather support, can be achieved by collocating facilities and consolidating METOC functions at Kadena Air Base and Misawa Air Base and provide comments in response to the final report.

Appendix A. Audit Process

Scope

We reviewed and evaluated whether DoD, Joint Staff, and Military Department guidance and memorandums implemented from July 1947 through March 2001 were adequate to ensure that the Military Departments provided METOC support efficiently and effectively. We reviewed "Joint Vision 2020," June 2000; the "DoD Base Closure and Realignment Report," March 1995; the "Naval Meteorology and Oceanography Command Strategic Plan," May 1997; the NAVAFA Agreement, January 13, 1993; the "Air Force Weather Strategic Plan," June 28, 2000; the Air Force Program Action Directive 97-10, "Reengineering Actions for Air Force Weather," December 1, 1997; and the PACAF Programming Plan 98-02, "Reengineering Actions for Air Force Weather," January 10, 2001. We reviewed the processes used by the Military Departments to align METOC support with their primary customers. In addition, we reviewed interagency and inter-Service agreements to determine whether the Navy and the Air Force provided overlapping METOC services.

DoD-Wide Corporate Level Government Performance and Results Act Coverage. In response to the Government Performance and Results Act, the Secretary of Defense annually establishes DoD-wide corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following goal and subordinate performance goal:

FY 2001 DoD Corporate Level Goal 2: Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **(01-DoD-2)**

FY 2001 Subordinate Performance Goal 2.3: Streamline the DoD infrastructure by redesigning the Department's support structure and pursuing business practice reforms. **(01-DoD-2.3)**

High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Infrastructure Management high-risk area.

Methodology

We analyzed METOC requirements and inter-Service memorandums used by the Navy and the Air Force to identify METOC products and services needed to support the warfighter in the Pacific by:

- conducting interviews with officials from USPACOM; U.S. Forces Japan; U.S. Forces Korea; the Commander in Chief, U.S. Pacific Fleet; PACAF; the Office of the Army Deputy Chief of Staff for Intelligence; the Oceanographer of the Navy; the Air Force Director of Weather; the Air Force Weather Agency; and the Joint Staff;
- visiting the Naval Meteorology and Oceanography Command; the NPMOCs at Pearl Harbor and Yokosuka; the NPMODs at Kadena and Misawa Air Bases; the JTWC; the 17th and the planned 20th OWSS; the 607th Weather Squadron at Yongsan Army Installation; the Air Force 18th Operational Support Squadron Weather Flight at Kadena Air Base; the 35th Operational Support Squadron Weather Flight at Misawa Air Base; and the Combat Air Forces Command and Control System Program Office;
- reviewing personnel statistics to determine the distribution of METOC personnel at each of the locations visited in USPACOM;
- identifying communication systems needed to transmit accurate, reliable, and timely METOC products required to support the warfighter;
- reviewing Navy and Air Force coordination efforts to determine whether METOC facilities could be collocated and overlapping support functions consolidated; and
- evaluating methods used by the Navy and the Air Force to align theater METOC support centers with their customers.

Audit Type, Dates, and Standards. We performed this program audit from September 2000 through March 2001 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. Accordingly, we included tests of management controls considered necessary. We did not use computer-processed data to perform this audit. Although we did our work in accordance with generally accepted Government auditing standards, we were unable to obtain an opinion on our system of quality control. The most recent external quality control review was withdrawn on March 15, 2001, and we will undergo a new review.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

Management Control Program Review

DoD Directive 5010.38, "Management Control Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance programs are operating as intended and to evaluate the adequacy of the controls.

Scope of Review of the Management Control Program. We reviewed the adequacy of the Military Departments' management controls related to METOC support in the Pacific theater. Specifically, we reviewed the coordination process between the Navy and the Air Force to determine whether DoD infrastructure was effectively and efficiently used to provide METOC services. Because we did not identify a material management control weakness, we did not assess management's self-evaluation.

Adequacy of Management Controls. The management controls for the Military Departments were adequate in that we identified no material management control weaknesses.

Prior Coverage

During the last 5 years, the only coverage of the DoD weather program has been our current series of reviews. The following final reports have been issued in this series. Unclassified Inspector General, DoD, reports can be accessed over the Internet at <http://www.dodig.osd.mil/audit/reports>.

Inspector General, DoD

Inspector General, DoD, Report No. D-2001-133, "Deliberate Planning for Meteorological and Oceanographic Operations (U)," June 1, 2001

Inspector General, DoD, Report No. D-2001-018, "Management and Oversight of the DoD Weather Program," December 14, 2000

Appendix B. Audit Process



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-4704

February 1, 2001

MEMORANDUM FOR THE COMMANDER IN CHIEF, U.S. PACIFIC COMMAND

SUBJECT: Evaluation of Weather Support in the Pacific

This is to bring to your attention a potential duplication of weather infrastructure and services in the Pacific. We identified the issue during our ongoing audit of DoD Meteorological and Oceanographic Infrastructure in the Pacific Theater (Project No. D2000LG-0102.04). The U.S. Pacific Air Forces was in the process of establishing the 17th Operational Weather Squadron (OWS) at Hickam Air Force Base, Hawaii. U.S. Air Force Program Action Directive 97-10, "Reengineering Actions for Air Force Weather," December 1, 1997, states that the 17th OWS will be aligned with U.S. Pacific Air Forces, not a numbered Air Force as generally described in the "Concept of Operations for Reengineered Air Force Weather," April 20, 1998. However, Program Action Directive 97-10 does not address existence of the Naval Meteorological and Oceanographic Center and Joint Typhoon Warning Center (Naval Pacific and Joint Typhoon Weather Center) in Hawaii, which provides a full spectrum of meteorological services to include local area forecasts; optimum path aircraft routing system flight plans; tropical cyclone warnings; aviation forecasts to the Coast Guard; and transient aircraft support to Navy, Marine Corps, and Coast Guard aviation units. The planned 17th OWS appears to duplicate weather infrastructure and forecasting capabilities already provided by the Naval Pacific and Joint Typhoon Weather Center.

The U.S. Pacific Air Forces did not coordinate with the Commander in Chief, U.S. Pacific Fleet, during Air Force reengineering to determine whether the mission of the proposed 17th OWS could be performed at the existing Naval Pacific and Joint Typhoon Weather Center. The proposed mission of the 17th OWS will include:

- regionalized forecasting for the 502nd Air Operations Group located at Hickam Air Force Base and the 13th Air Force located in Guam,
- supporting the U.S. Pacific Air Forces Deployable Air Operations Center,
- contingency support for the entire U.S. Pacific Air Forces area of responsibility,
- aviation support for transient and refueling aircraft missions, and
- weather warnings for Army and Air Force units.

As of January 2001, weather support for the 13th Air Force is provided by the 36th Combat Weather Team located in Guam and weather support for operations from Hickam Air Force Base is provided by the 15th Operational Support Squadron located at Hickam Air Force Base.

Establishing the 17th OWS when the Naval Pacific and Joint Typhoon Weather Center is located in close proximity may not be the most efficient and effective use of DoD resources. The Air Force plans to begin installing the Operational Weather Squadron Production System (phase II), which is an Air Force-unique system, at the 17th OWS and the Naval Pacific and Joint Typhoon Weather Center on February 12, 2001. Installation of that system at the two locations will cost the Air Force an estimated \$1.45 million, including \$350,000 in labor costs and approximately \$1.1 million in hardware, software, and licensing fee costs. U.S. Pacific Air Forces expects the 17th OWS to be operational by July 1, 2001. Establishing the 17th OWS will also significantly increase the number of personnel needed to provide similar weather services that were previously provided by the 36th Combat Weather Team and the 15th Operational Support Squadron. Currently, 16 personnel provide weather support for the 13th Air Force and 11 personnel provide weather support for Hickam Air Force Base. However, the projected end-strength manning level for the 17th OWS is estimated to exceed 50 personnel.

We are bringing this issue to your attention in this form because prompt action is needed to ensure that U.S. Pacific Air Forces evaluates the validity of a separate weather facility at Hickam Air Force Base or whether existing infrastructure at the Naval Pacific and Joint Typhoon Weather Center can be used to satisfy warfighting requirements in an efficient manner. We will issue a report upon completion of the audit that will include a copy of this memorandum and a summary of actions taken by you. Accordingly, we request that you inform us in writing within 30 days of the date on this memorandum of your planned actions. Questions on this issue should be directed to Ms. Evelyn R. Klemstine at (703) 604-9172 (DSN 664-9172) (eklemstine@dodig.osd.mil) or Mr. Gary R. Padgett at (703) 604-9632 (DSN 664-9632) (gpadgett@dodig.osd.mil).



David K. Steensma
Deputy Assistant Inspector General
for Auditing

cc:

Commander in Chief, U.S. Pacific Fleet
Commander in Chief, U.S. Pacific Air Forces
Oceanographer of the Navy
Director of Weather, Air Force
Commanding Officer, Headquarters U.S. Pacific Air Forces, Air and Space Operations,
Weather Division
Commanding Officer, Naval Pacific Meteorology and Oceanography Center/Joint
Typhoon Warning Center



**COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
(USCINCPAC)
CAMP H.M. SMITH, HAWAII 96861-4028**

J053
7300
Ser: 145-01
2 MAR 01

To: Mr. David K. Steensma, Deputy Assistant Inspector General For Auditing
Department of Defense Inspector General
400 Army Navy Drive, Arlington, VA 22202-2884

Subj: USCINCPAC RESPONSE TO THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL (DODIG) EVALUATION OF WEATHER SUPPORT
IN THE PACIFIC THEATER

Ref: (a) DODIG ltr of 1 Feb 01

Encl: (1) HQ PACAF ltr of 20 Feb 01

1. Thank you for bringing the issue of a potential duplication of weather infrastructure and support services in the Pacific Theater pursuant to reference (a) to our attention.

2. Based on your recommendation, Commander Pacific Air Forces conducted a thorough evaluation of the validity of a separate weather facility at Hickam Air Force Base. Relevant factors including the use of facilities at the Naval Pacific Meteorology and Oceanography Center/Joint Typhoon Warning Center were considered in the evaluation. We agree with the PACAF Commander's conclusion that given current manning, equipment and existing infrastructure it is appropriate that the 17th Operational Weather Squadron (OWS) be established at Hickam AFB. We also agree with his assertion that the "organize, train, and equip" function of weather support is a Service responsibility.

3. USPACOM component commanders have enjoyed close weather and oceanography cooperation for many years through our METOC Group U.S. Pacific Command (MGUSPACOM). It is clearly each service's responsibility to focus on their operational and tactical level information needs as appropriate to their unique operations. From an efficiency perspective, we agree that the co-location of USAF and USN METOC operations here in Hawaii merits further study. The Joint Typhoon Warning Center under USPACOM aegis holds potential as a good place to develop and expand this interservice synergy. Increased co-location initiatives will require careful planning at all levels including the Joint Staff, the Services and USPACOM and its Components. I have tasked my staff to determine the requirements and develop a proposal to the Joint Staff for the establishment of a cooperative METOC architecture in Hawaii and to review additional opportunities throughout the PACOM AOR.

Subj: USCINCPAC RESPONSE TO THE DEPARTMENT OF DEFENSE
INSPECTOR GENERAL (DODIG) EVALUATION OF WEATHER SUPPORT
IN THE PACIFIC THEATER

4. In order to support an evolution to a future Joint METOC Center, we suggest that your findings include a recommendation for the Services to consider a Joint METOC Programs office, including joint modeling, acquisition, and communications strategies to increase commonality among future METOC systems.

5. Enclosure (1) contains the HQ PACAF comments to the DODIG concerns.

6. Again, we appreciate the opportunity to comment on your concerns. If there are further questions on this issue they may be directed to the Pacific Theater Point of Contact Mr. Wayson Lee at (808) 477-1182 (wlee000@hq.pacom.mil) or for weather specific issues to CAPT C.W. Green (808) 477-5740 (cwgreen0@hq.pacom.mil).



RONALD L. LOWE
Major General, USA
Deputy Chief of Staff



DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

20 Feb 01

MEMORANDUM FOR USCINCPAC

FROM: PACAF/CC
25 E Street Suite G-214
Hickam AFB HI 96853-5420

**SUBJECT: Evaluation of Weather Support in the Pacific (DOD IG
Memo, 1 Feb 01)**

1. We have reviewed concerns raised in the DOD IG memorandum (Atch 1) to CINCPAC dated 1 Feb 01. As you know, we have been consolidating our C2 functions to better perform my AFFOR responsibilities. An integral part of this effort is the formation of the 17th Operational Weather Squadron, which focuses on the specific weather conditions in key parts of our operations areas and provides focused information for AFFOR and ARFOR C2 decision making. The Air Force Chief of Staff approved the concept of reorganization of AFFOR weather forces including those in the Pacific Air Forces.
2. Our staff addressed the DOD IG memorandum. We have included (Atch 2) a point-by-point analysis. We would also point out that at every step of our evolution of AFFOR and ARFOR weather support we have looked at inter-service cooperation and how to leverage work already done by other agencies. We also took a second look at our support to AFFOR and ARFOR C2 in the theater and pulled overhead weather information operations from Korea into Japan. Similarly, we are looking again at which specific functions must be done for AFFOR and ARFOR in Alaska and Hawaii/Guam regions to efficiently optimize support.
3. We believe your response to the DOD IG memo should be to point out that the organize, train and equip function of weather support is a service responsibility, and to direct future inquiry to the service staffs. We should also point out that the service cooperation evident through the Joint Typhoon Warning Center and our Meteorological

Group in USPACOM has been a success story. In addition, my staff is preparing an evaluation of Weather Support in the Pacific as directed by your J3.

//SIGNED//
PATRICK K. GAMBLE, General,

USAF

Commander

Attachments:

1. DOD IG Memorandum to USCINCPAC, 1 Feb 01
2. Analysis, DOD IG Memorandum to USCINCPAC, 1 Feb 01

cc:

CINCPACFLT

HQ USAF/XOW

Oceanographer of the Navy, N096

HQ PACAF/DO/DOW

502 AOG/CC

CO, Naval Pacific Meteorology and Oceanography Center/Joint

Typhoon Warning Center

17 OWS/CC

POINT-BY POINT ANALYSIS PAPER
ON
DOD IG MEMO TO CINCPAC, 1 FEB 01

The following analysis provides PACAF positions and analysis for each part of the DOD IG letter to CINCPAC. DOD IG text is provided in normal Arial type. *PACAF analysis and comments are in bold italics.*

DOD IG: "MEMORANDUM FOR THE COMMANDER IN CHIEF, U.S. PACIFIC COMMAND"

DOD IG: "SUBJECT: Evaluation of Weather Support in the Pacific"

This is to bring to your attention a potential duplication of weather infrastructure and services in the Pacific. We identified the issue during our ongoing audit of DoD Meteorological and Oceanographic Infrastructure in the Pacific Theater (Project No. D2000LG-0102.04). The U.S. Pacific Air Forces was in the process of establishing the 17th Operational Weather Squadron (OWS) at Hickam Air Force Base, Hawaii. U.S. Air Force Program Action Directive 97-10, "Reengineering Actions for Air Force Weather," December 1, 1997, states that the 17th OWS will be aligned with the U.S. Pacific Air Forces, not a numbered Air Force as generally described in the "Concept of Operations for Reengineered Air Force Weather," April 20, 1998."

- *The 1998 CONOPS referenced is now obsolete--replaced by AFI 15-128 and AFMAN 15-129, both published in Nov 00.*
- *AFXOW notified DOD IG in Sep 00 of imminent publication of the AFI and AFMAN, and that they would supercede the CONOPS.*
- *The CONOPS specifically stated the OWS in Hawaii would be aligned with PACAF.*
- *The 17 OWS was already established 1 Oct 00 with associated sunk costs.*

DOD IG: "However, Program Action Directive 97-10 does not address existence of the Naval Meteorological and Oceanographic Center and Joint Typhoon Warning Center (Naval Pacific and Joint Typhoon Weather Center) in Hawaii, which provides a full spectrum of meteorological services to include local area forecasts; optimum path aircraft routing system flight plans; tropical cyclone warnings; aviation forecasts to the Coast Guard; and transient aircraft support to Navy, Marine Corps, and Coast Guard aviation units."

- *PAD 97-10 addresses JTWC but not NPMOC.*
- *JTWC operates under a joint charter. It is a PACOM-directed joint center specifically to provide tropical cyclone warnings and is a separate function that is hosted at the NPMOC facility. Describing NPMOC/JTWC as one combined weather center is incorrect and misleading since diverse functions are performed in the facility.*

- NPMOC/JTWC does not provide the full spectrum of meteorological services to meet AF and Army weather support requirements; on the contrary, NPMOC aviation support is limited.

- Implication of memo is NPMOC has a robust operational mission that could quickly absorb Air Force and Army weather support requirements. Navy realignment completed in Oct 99 realigned NPMOC's primary operational missions at San Diego and Yokosuka, the net result being a reduction in the command's AOR, budget, and personnel. The USN expressed concern about the reduction in a background paper (25 May 98) citing JTWC as Pearl Harbor's primary function, with staff support to unified and specified commanders as significant secondary functions.

- NPMOC provides flight weather briefings to USCG, not aviation forecasts.

- All transient DOD air traffic at Hickam AFB are briefed by USAF (15 OSS).

- By previous Navy-Air Force agreements, Air Force/Army operations are generally supported by the Air Force and Navy/Marine operations are generally supported by the Navy. Familiarity with operational and tactical command and control of operations can be significant in providing proper support to diverse operational platforms.

DOD IG: "The planned 17th OWS appears to duplicate weather infrastructure and forecasting capabilities already provided by the Naval Pacific and Joint Typhoon Weather Center."

- Existing NPMOC and JTWC cannot support the Air Force and Army with the current facilities and manpower or DOD IG would have identified these facilities as overmanned and undertasked.

- Additionally, Joint Publication 3-59, Joint Doctrine & TTP for Meteorological and Oceanographic Operations, clearly states each service has the responsibility to provide operational METOC support to its own warfighters (USAF = USAF/USA; USN = USN; USMC = USMC).

- The Navy has particular expertise in wind and seas information while the Air Force has particular expertise in specialized atmospheric and space platform support.

DOD IG: "The U.S. Pacific Air Forces did not coordinate with the Commander in Chief, U.S. Pacific Fleet, during Air Force reengineering to determine whether the mission of the proposed 17th OWS could be performed at the existing Naval Pacific and Joint Typhoon Weather Center."

- As part of the Air Force's functional weather reengineering, PACAF/DOW first suggested collocation to MGPACOM (PACOM Joint METOC Advisory Group), chaired by the Senior METOC Officer, in Sep 97. Subsequently, USAF/XOW formally proposed discussions regarding potential benefits of collocation in a 6 Jan 98 memo. The issue remained a discussion item at MGPACOM for five meetings through Aug 98, when USN requested closure of open item pending completion of Navy METOC realignment in the Pacific in FY00. The Navy effectively completed OTSR realignment 1 Oct 99, at which time, JTWC Director (AF) provided a briefing to NPMOC/JTWC Commanding Officer on AF reengineering plans, including the 17

OWS creation in Jan 00. Subsequent discussions cited declining NPMOC mission and responsibilities, combined with increased 17 OWS AOR and responsibilities, as reasons for decreasing or eliminating any operational value of collocation at NPMOC.

- A 1998 AF/XOW memo to N096 (Oceanographer of the Navy) offered service cooperation on possible consolidation of regional centers in Hawaii. No official written response, but Navy verbally declined the proposal to AF/XOW.

- An Apr 00 AF/XOW memo to N096 stating decision to stay with Hickam location but suggesting a "virtual" co-located center.

DOD IG: "The proposed mission of the 17th OWS will include:

- regionalized forecasting for the 502nd Air Operations Group located at Hickam Air Force Base and the 13th Air Force located in Guam,
- supporting the U.S. Pacific Air Forces Deployable Air Operations Center,
- contingency support for the entire U.S. Pacific Air Forces area of responsibility,
- aviation support for transient and refueling aircraft missions, and
- weather warnings for Army and Air Force units.

DOD IG: "As of January 2001, weather support for the 13th Air Force is provided by the 36th Combat Weather Team located in Guam and weather support for operations from Hickam Air Force Base is provided by the 15th Operational Support Squadron located at Hickam Air Force Base."

- The 36 Combat Weather Team is really the 36 OSS.

- The characterization of the 17 OWS mission is misleading and does not include all the mission elements of the 17 OWS. Terminal Aerodrome Forecasts (TAFs), drop zone forecasts, aerial refueling tracks, high altitude reconnaissance, special operations, etc., are some examples of operational support functions missing. Support is also provided to Wheeler AAF, HQ USARPAC.

- Support for the 502 AOG is a continuous Meteorological Watch over the 13 AF AOR in support of the PACAF Operations Support Center.

- The Deployable Air Operations Center is now the Joint Air Operations Center.

- The 17 OWS does not duplicate Joint Typhoon Warning Center processes, but does leverage JTWC output for application to PACAF C2 information needs.

DOD IG: "Establishing the 17th OWS when the Naval Pacific and Joint Typhoon Weather Center is located in close proximity may not be the most efficient and effective use of DoD resources."

- Organizations support separate and diverse operations and customers following joint doctrine and are not duplicative because they focus on applying weather information to specific operations, warfighter systems, and unique C2 processes. Little efficiency or effectiveness is gained by consolidation at this time. JTWC generally provides

strategic-level information relative to the tropical cyclone threat. 17 OWS provides operational-level C2 impact analysis and information of all environmental information.

- The "close proximity" argument is misleading. It would set a precedent for weather and other functional areas (such as communications, computers, security forces, air operations, intelligence, etc.) that fails to recognize and delineate service responsibilities to apply technical support to unique operations.

DOD IG: "The Air Force plans to begin installing the Operational Weather Squadron Production System (phase II), which is an Air Force-unique system, at the 17th OWS and the Naval Pacific and Joint Typhoon Weather Center on February 12, 2001."

- Implies the AF is at fault for its "unique" system. Navy-unique systems are already in use at NPMOC/JTWC. Such systems are preferred, driven by requirements to collect, generate, and disseminate information to specific operator C2 processes. C2 interface considerations are different among the services.

- The program execution and associated costs were incurred well ahead of this tasker and are now sunk costs.

DOD IG: "Installation of that system at the two locations will cost the Air Force an estimated \$1.45 million, including \$350,000 in labor costs and approximately \$1.1 million in hardware, software, and licensing fee costs. U.S. Pacific Air Forces expects the 17th OWS to be operational by July 1, 2001."

- OWS Production System (OPS-II) equipment has already been bought, configured for the mission, and sent to Hawaii. This is already a sunk cost.

- Mention is made of cost of installation of AF OPSII. There is no difference in costs based on collocation. OPSII is the USAF standard system required for OWS operations regardless of location; collocation does not reduce the system requirements to satisfy OWS production and the JTWC satellite reconnaissance mission.

DOD IG: "Establishing the 17th OWS will also significantly increase the number of personnel needed to provide similar weather services that were previously provided by the 36th Combat Weather Team and the 15th Operational Support Squadron. Currently, 16 personnel provide weather support for the 13th Air Force and 11 personnel provide weather support for Hickam Air Force Base. However, the projected end-strength manning level for the 17th OWS is estimated to exceed 50 personnel."

- Implication in memo is formation of 17 OWS results in an increase in number of people required to perform existing missions. This is incorrect. Current planned manning for 17 OWS is 52. This manpower comes from a realignment of existing PACAF manpower and does not constitute an increase in total funded authorizations. Further, the implication is that 17 OWS will only perform the existing missions at

Guam and Hickam; however, the mission also includes those encompassed by JTWC, HQ USARPAC, HQ PACAF and other associated C2 support.

DOD IG: "We are bringing this issue to your attention in this form because prompt action is needed to ensure that U.S. Pacific Air Forces evaluates the validity of a separate weather facility at Hickam Air Force Base or whether existing infrastructure at the Naval Pacific and Joint Typhoon Weather Center can be used to satisfy warfighting requirements in an efficient manner."

- Cooperation among PACOM weather components has been well documented though the MGPACOM forum.*
- Current infrastructure and capability at NPMOC/JTWC falls short of that needed to also meet AF and Army needs.*
- Joint doctrine allows for unity of effort but clearly defines separate customers for each service component.*

DOD IG: "We will issue a report upon completion of the audit that will include a copy of this memorandum and a summary of actions taken by you. Accordingly, we request that you inform us in writing within 30 days of the date on this memorandum of your planned actions. Questions on this issue should be directed to Ms. Evelyn R. Klemstine at (703) 604-9172 (DSN 664-9172) (eklemstine@dodig.osd.mil) or Mr. Gary R. Padgett at (703) 604-9632 (DSN 664-9632) (gpadgett@dodig.osd.mil).

David K. Steensma
Deputy Assistant Inspector General
for Auditing

cc:

Commander in Chief, U.S. Pacific Fleet
Commander in Chief, U.S. Pacific Air Forces
Oceanographer of the Navy
Director of Weather, Air Force
Commanding Officer, Headquarters U.S. Pacific Air Forces, Air and Space
Operations, Weather Division
Commanding Officer, Naval Pacific Meteorology and Oceanography Center/Joint
Typhoon Warning Center"

- Corrections required:*
 - CINC PACAF is Commander, Pacific Air Forces*
 - Director of Weather, Air Force should be Director of Weather, Headquarters USAF or HQ USAF/XOW*
 - HQ PACAF/DOW is not a Commanding Officer*

Appendix C. Management Comments on the Finding and Recommendations and Audit Response

This section addresses comments provided by the Air Force Deputy Chief of Staff Air and Space Operations to the draft report. The Air Force comments have been extracted and are presented here with the associated audit responses. The Air Force comments are presented by topic.

NAVAF Initiatives

Air Force Comments. The Air Force stated that the report recommendations that the Oceanographer of the Navy and the Air Force Director of Weather reevaluate closed NAVAf initiatives, failed to take into account the organizational and command structures in the Pacific Theater. The Air Force stated that the Navy-Air Force initiative to examine whether the JTWC is a model for future efforts between the Services had previously been evaluated and that the Air Force had offered to study combining units in Hawaii in 1998 and again in 2000. However, subsequently the Air Force had changed their organizational structure and functions through reengineering and thus now consolidating Navy and Air Force units would pose a command and control challenge. The Air Force also stated that in order for the JTWC or any regional center to be a joint organization, the Commander in Chief, USPACOM, would need to establish joint billets for Navy and Air Force personnel assigned to the JTWC or other regional centers. In addition, the Air Force stated that the NAVAf initiative on regional center consolidation was closed since at least one unit from the four pairs of units recommended for consolidation had been inactivated or changed its mission.

Audit Response. We disagree that the Oceanographer of the Navy and the Air Force Director of Weather have effectively closed the NAVAf initiatives cited in this report. We found no evidence that an evaluation had been performed to determine whether the JTWC could serve as a model for future cooperative efforts between Services. Although the Air Force had previously offered to study combining units in Hawaii, no action was taken. In addition, although current Air Force reengineering efforts require collocating OWS with numbered Air Force units, there are exceptions to the policy. For example, in the European Theater the OWS is located in Sembach, Germany, but the numbered Air Forces are located in Mildenhall, United Kingdom and Aviano, Italy. The command and control structure of a joint center should not pose a command and control challenge, as a single Military Department would be assigned operational responsibility for the center. For example, USPACOM Instruction 3140.1W, "Tropical Cyclone Operations Manual," September 14, 1995, states that the JTWC is a joint Navy and Air Force organization responsible for issuing tropical cyclone warnings for the USPACOM area of

responsibility. Therefore, the JTWCC is a joint organization with Navy assigned operational responsibility for the center and assigned personnel are not in joint billets.

The report has been revised to reflect that of the four pairs of Navy and Air Force operational METOC centers identified in the NAVAFA agreement for consolidation, at least one of the Navy and Air Force METOC centers under consideration had either downsized its original mission or closed. However, although the four pairs had been either downsized or closed, the validity of the concept of consolidating multi-Service METOC centers is still valid.

Collocating and Consolidating Kadena and Misawa Weather Functions

Air Force Comments. The Air Force stated that the Services had already reaped the economies and efficiencies from collocating METOC functions at Kadena and Misawa Air Bases in Japan. For example, at Kadena Air Base the Air Force provides a full spectrum of aviation weather services for naval forces assigned to or transiting the base. The Air Force also stated that the report failed to provide any factual evidence that any physical consolidation would result in increased efficiency or effectiveness. In addition, should physical consolidation occur, mission crews, or METOC briefers, would be required to travel across the base, increasing the possibility of compromising classified information.

Audit Response. We agree that the Navy and the Air Force has "reaped" some economies and efficiencies from collocating METOC functions at Kadena and Misawa Air Bases, and have revised the report to reflect that aviation weather support functions have been consolidated at the two Air Bases. However, additional economies and efficiencies may result by physically collocating facilities. For example, in Okinawa the Japanese Government has requested additional efforts to consolidate United States presence on the island. Consolidating METOC functions at Kadena would provide additional space as well as the possibility of eliminating redundant communications lines. We do not agree that the physical consolidation of METOC functions would effect the compromise of classified information. It is the responsibility of the individual giving (the briefer) or receiving (the mission crews) to protect the classified information. If base security is a concern, it would effect both sides of the base without consolidation. However, without a study, real economies and efficiencies can not be effectively addressed.

Service Responsibilities

Air Force Comments. The Air Force stated that the PACOM Director of Operations recommendation to perform a theater-wide evaluation to ensure METOC services are done in the most efficient and effective manner runs

counter to Title 10, United State Code (Title 10). Title 10 explicitly states that it is a Service responsibility to coordinate and cooperate with other Military Departments to provide for more effective, efficient, and economical administration and to eliminate duplication. The Air Force also felt that the recommendations were inconsistent with their view of how Air Force and Army forces should be supported under Title 10 to present the most capable forces to USPACOM.

Audit Response. We disagree with the Air Force assertion that the recommendations of the report run counter to Title 10. Public Law 99-433, "Goldwater-Nichols Department of Defense Reorganization Act of 1986," October 1, 1986, and Section 164 of Title 10, states that the command authority of combatant commands includes:

- giving authority to subordinate commands and forces necessary to carry out missions assigned to the command, including authoritative direction over all aspects of military operations, joint training, and logistics; and,
- coordinating and approving those aspects of administration and support, to include control of resources and equipment, internal organization, and training, and discipline necessary to carry out missions assigned to the command.

In addition, Chairman of the Joint Chiefs of Staff Instruction 3810.01A, "Meteorological and Oceanographic Operations," February 25, 1998, states that the designated combatant command senior METOC officer is to coordinate all METOC operations within the combatant commands area of responsibility. Further, the senior METOC officer is required to assign tasks to, and direct coordination among, the components to ensure unity of effort. Therefore, we do not believe that our recommendations infringe on Services Title 10 responsibilities. However, we do agree that the Service components should play a role in any theater-wide evaluation of METOC support and have revised the recommendation to include Service coordination.

Future METOC Support Considerations

Air Force Comments. The Air Force requested that the entire paragraph on page 12, "Future METOC Support Considerations," be deleted stating that the National Polar-Orbiting Operational Environmental Satellite System is a tri-agency program in Phase I of the acquisition cycle and is undergoing requirements definition before the first expected satellite launch in 2010. Although the Interagency Program Office is performing well at this stage of the program, it is premature to assess the efficiency and effectiveness of the system. In addition, the Air Force noted that the audit team had not evaluated or visited the National Polar-Orbiting Operational Environmental Satellite System program office.

Audit Response. We agree that the National Polar-Orbiting Operational Environmental Satellite System is currently in the requirements definition phase; however, the satellite is expected to consolidate all civilian and military METOC systems into a single national system. Therefore, it is imperative that the Services begin to plan and prepare for the implementation of the new Tri-agency satellite system. At the specific request of the former Air Force Director of Weather, we did not evaluate or visit the National Polar-Orbiting Operational Environmental Satellite System program office.

Audit Support

Air Force Comments. The Air Force stated that the report only provided a cursory evaluation of "the effectiveness and efficiency" of Pacific METOC support and only recommended an evaluation of possible improvements. In addition, the Air Force stated that the conclusions were not backed by a cost benefit analysis even though the audit has been going on for more than 14 months. The Air Force also stated that the auditors continue to look inward at Air Force-Navy METOC efficiency and fail to address economies and efficiencies that the Air Force has already realized by looking outward to support our supported warfighters and leveraging industry and academia.

Audit Response. The audit report provides an overview of Pacific METOC support. Although we would have liked to provide a more thorough evaluation, to include a cost benefit analysis, such an evaluation would have required lengthy on-site visits to all METOC locations in the theater. In addition, should we have recommend closure or consolidation of specific sites, the Air Force would have argued that we were infringing on their Title 10 responsibilities. The Air Force fails to recognize that although the audit has been going on for more than 14 months, the audit has resulted in four separate reports addressing different aspects of the weather program, to include, management and oversight of the program, METOC warplanning, METOC support in the Pacific theater and METOC support in the European theater. Although the Air Force stated that the auditors continue to look inward at Air Force-Navy METOC efficiencies and fail to address economies and efficiencies that the Air Force has already realized, the Air Force has failed to recognize that our approach has been to take a total DoD program approach to the audit, not a Service oriented approach.

Appendix D. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics

Director, Defense Research and Engineering

Under Secretary of Defense (Comptroller)

Deputy Chief Financial Officer

Deputy Comptroller (Program/Budget)

Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)

Joint Staff

Director, Joint Staff

Department of the Army

Deputy Chief of Staff for Intelligence

Auditor General, Department of the Army

Department of the Navy

Naval Inspector General

Auditor General, Department of the Navy

Oceanographer of the Navy

Commander, Naval Meteorology and Oceanography Command

Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Pearl Harbor

Commanding Officer, Naval Pacific Meteorology and Oceanography Center, Yokosuka

Commanding Officer, Naval Pacific Meteorology and Oceanography Detachment, Kadena

Commanding Officer, Naval Pacific Meteorology and Oceanography Detachment, Misawa

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)

Auditor General, Department of the Air Force

Director of Weather

Commander, Air Force Weather Agency

Commander, Combat Air Force Command and Control System Program Office

Commander, 17th Operational Weather Squadron

Commander, 20th Operational Weather Squadron

Commander, 18th Operational Support Squadron Weather Flight

Commander, 35th Operational Support Squadron Weather Flight

Department of the Air Force (cont'd)

Commander, 607th Weather Squadron
Director, Joint Typhoon Warning Center

Unified Commands

Commander in Chief, U.S. European Command
Commander in Chief, U.S. Pacific Command
 Commander in Chief, U.S. Pacific Fleet
 Commander, U.S. Pacific Air Forces
 Commander, U.S. Forces Japan
 Commander, U.S. Forces Korea
Commander in Chief, U.S. Joint Forces Command
Commander in Chief, U.S. Southern Command
Commander in Chief, U.S. Central Command
Commander in Chief, U.S. Space Command
Commander in Chief, U.S. Special Operations Command
Commander in Chief, U.S. Transportation Command
Commander in Chief, U.S. Strategic Command

Other Defense Organizations

Director, Defense Information Systems Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International Relations
Relations Committee on Government Reform
House Subcommittee on Government Efficiency, Financial Management, and Intergovernmental Relations
House Subcommittee on Technology and Procurement Policy, Committee on Government Reform

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Department of the Navy Comments

Final Report
Reference



DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY
(INSTALLATIONS AND ENVIRONMENT)
1000 NAVY PENTAGON
WASHINGTON, D.C. 20350-1000

MAY 24 2001

From: Director, Environmental Compliance & Restoration Policy,
Office of the Deputy Assistant Secretary of the Navy
(Environment and Safety)
To: Assistant Inspector General for Auditing, Department of
Defense

Sub: DOD IG PROJECTS NO. D2000LG-0102.04 AND
NO. D2000LG-0102.003

Ref: (a) DoD IG Project No. D2000LG-0102.04, Meteorological
and Oceanographic Support in the Pacific Theater,
29 MAR 01
(b) DoD IG Project No. D2000LG-0102.003, Meteorological
and Oceanographic Support in the European Theater,
29 MAR 01

Encl: (1) CNO(N096) ltr 5410 Ser N096/1U570570 of 21 MAY 01
(2) CNO(N096) ltr 5410 Ser N096/1U5705701 of 20 MAY 01

1. In response to references (a) and (b), enclosures (1) and (2)
are forwarded.

PAUL J. YAROSCHAK
Director, Environmental Compliance
& Restoration Policy

*Enclosure omitted because it is not applicable to this audit report.

Final Report
Reference



DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO
5410
Ser N096/1U570570
21 MAY 01

From: Chief of Naval Operations (N096)
To: Assistant Inspector General for Auditing,
Office of the Inspector General, Department of Defense
Via: Assistant Secretary of the Navy (Installation and
Environment)
Subj: DOD IG DRAFT AUDIT REPORT, METEOROLOGICAL AND OCEANOGRAPHIC
SUPPORT IN THE PACIFIC THEATER (PROJECT NO. D2000LG-0102.04)
Ref: (a) DOD IG Project NO. D2000LG-0102.04, Meteorological and
Oceanographic Support in the Pacific Theater, 29 Mar 01

1. In response to the recommendations of reference (a), I concur
with comment to recommendations 1a and 2, and non-concur with
recommendations 1b and 1c. Specifically:

a. Concur with recommendation 1a to reevaluate the
initiative to "Reduce Duplication at Operational Facilities -
Regional Centers" but do not concur with reevaluating the Joint
Typhoon Warning Center (JTWC) as a model for cooperation and
reduction of duplication at regional centers. The mission of the
JTWC is focused on tropical storm support and is not easily
applied to the breadth of support and services provided to the
rest of the unified command via the regional centers.
Recommended completion date for the reevaluation is June 2002.

b. Non-concur with comment to recommendations 1b and 1c to
collocate facilities and consolidate meteorological and
oceanographic (METOC) support at Kadena and Misawa. In these
locations the Air Force and Navy have already completed a
reduction of duplicated support. The Air Force weather flights
provide aviation support at these locations while the Naval
Pacific METOC Detachments provide continuous service-unique types
of support other than all-service aviation weather briefings.
Further consolidation is not expected to significantly increase
effectiveness or efficiency of support and may negatively impact
flight crew operations. Any decision for further consolidation
is best left to the Service Components and their subordinate
units to decide on a case-by-case basis.

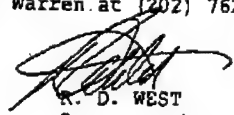
c. Concur with comment to recommendation 2 for a theater-
wide evaluation of METOC support to ensure Navy and Air Force
METOC services meet CINC PACOM and Service-unique mission
requirements in the most efficient and effective manner.

*Draft recommendations were renumbered. See page 12.

Subj: DOD IG DRAFT AUDIT REPORT, METEOROLOGICAL AND OCEANOGRAPHIC
SUPPORT IN THE PACIFIC THEATER (PROJECT NO. DZ000LG-0102.04)

This recommendation, however, should be addressed to the Air
Force and Navy in line with service responsibilities with a
recommended completion date of June 2002.

2. If you have questions, please contact me at (202) 762-1020 or
my Action Officer CDR Steve Warren at (202) 762-0261.



R. D. WEST
Oceanographer of the Navy

Copy to:
NAVIG
CNO (N00, N09)
USCINCPAC (J319)
USAF/XOW
COMNAVMETOCOM

Department of the Air Force Comments



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

25 MAY 2001

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/XO
1630 Air Force Pentagon
Washington, DC 20330-1630

SUBJECT: Draft DoD IG Report, Project Code D2000LG-0102.04, Meteorological
and Oceanographic Support in the Pacific Theater, 4 April 2001

The Air Force has reviewed the subject draft audit report. The Air Force non-concurs with all recommendations. Additional specific comments are attached.

The report's recommendations that the Oceanographer of the Navy and Air Force Director of Weather reevaluate closed Navy-Air Force initiatives failed to take into account the organizational and command and control relationships in the Pacific Theater. The recommendation that the PACOM Director for Operations perform a theater-wide evaluation to ensure METOC services are done in the most efficient and effective manner runs counter to Title 10 U.S.C.. Title 10 explicitly states that it is a Service responsibility to coordinate and cooperate with other Military Departments to provide for more effective, efficient, and economical administration and to eliminate duplication.

I agree with the PACAF position that the audit results appear cursory and lack sufficient factual foundation for strategic business decisions. I also agree that the recommendations are inconsistent with our view of how Air Force and Army forces should be supported under Title 10 to present the most capable forces to CINCPAC.

The auditors continue to look inward at Air Force-Navy METOC efficiency and fail to address economies and efficiencies the Air Force has already realized by looking outward to our supported warfighters and leveraging industry and academia. It is disappointing to note that your audit team appears to have made little progress toward achieving its overall objective and in fact improperly suggested that PACOM perform the study that your audit team was to have been conducting.

We were not given an opportunity to work with the audit team on a discussion draft before the final draft was published. In the future, if the audit team is serious about correcting factual errors and gaining the understanding needed to develop appropriate and helpful recommendations, we would like to work with them through such a draft.

Finally, in the tri-Service response to your first audit report (Reference (c)), the Services made the offer to work with your staff and ASD(C3I) to resolve disputed recommendations so as to avoid mediation per DoD Directive 7650.3, "Follow-up on

General Accounting Office, DoD Inspector General, and Internal Audit Reports.”
There are still unresolved issues and we are still waiting for the mediation process to
begin with OAIG-AFU.

This is a coordinated Air Force and Army position.



ROBERT H. FOGLESONG, Lt Gen, USAF
Deputy Chief of Staff
Air and Space Operations

Attachments:

1. AF Position on Recommendations
2. Specific Comments

cc:

ASD(C3I)	OAIG-AFU	Dep Asst SecNav (Env & Safety)
DAMI	CNO(N096)	SAF/IGI SAF/SX
SAF/AG	SAF/FM	SAF/LIR SAF/PA

Meteorological and Oceanographic Support in the Pacific Theater AF Position on Recommendations

I.a. We recommend that the Oceanographer of the Navy and the Air Force Director of Weather reevaluate and support the analysis regarding the initiatives "Examine the Joint Typhoon Warning Center as a Model for Cooperation" and "Reduce Duplication at Operational Facilities - Regional Centers," to ensure the Navy and the Air Force provide DoD the most effective and efficient meteorological and oceanographic support.

AF Position: Non-concur.

Rationale: These initiatives were previously evaluated through NAVAf processes. Title 10 gives the Services this responsibility. The Air Force offered to study combining units in Hawaii in 1998 and again in 2000. We have since changed our organizational structure and their functions through reengineering. Due to the differences in the organizational and command and control structure of Navy and Air Force METOC units, Joint units pose a command and control challenge. The NAVAf initiative on regional center consolidation was also closed. Four pairs of units were recommended for consolidation and at least one unit in each of those pairs has been inactivated or changed its mission.

I.b. We recommend that the Oceanographer of the Navy and the Air Force Director of Weather collocate facilities and consolidate meteorological and oceanographic support provided by the Naval Pacific Meteorology and Oceanography Detachment and the Air Force 18th Operational Support Squadron Weather Flight at Kadena AB Base, Japan, to improve operational efficiency.

AF Position: Non-concur.

Rationale: The Services have already reaped economies and efficiencies from collocating functions at Kadena AB. For example, the Air Force provides the full suite of aviation weather services such as airfield observations, forecasts, en route conditions, and airfield and en route hazards for Naval forces assigned to or transiting the base. Customers were a prime focus in our analysis. The report fails to provide any factual evidence that any physical consolidation would result in any increase in efficiency or effectiveness. One of the units would be divorced from its primary customer, resulting in reduced efficiency by forcing aircrews, mission crews, or METOC briefers to travel across the base, increasing the possibility of compromising classified information or requiring new communication capabilities. No evidence is presented in the report to indicate that any marginal METOC efficiency gains would exceed the reduced efficiency imposed on METOC customers.

I.c. We recommend that the Oceanographer of the Navy and the Air Force Director of Weather collocate facilities and consolidate meteorological and oceanographic support provided by the Naval Pacific Meteorology and Oceanography Detachment and the Air

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*Draft recommendations were renumbered. See Page 12.

Force 35th Operational Support Squadron Weather Flight at Misawa Air Base, Japan, to improve operational efficiency.

AF Position: Non-concur.

Rationale: Same as stated above for Recommendation 1b.

2.a. We recommend that the Director for Operations, U.S. Pacific Command, perform a theater-wide evaluation of meteorological and oceanographic support to ensure Navy and Air Force meteorological and oceanographic Services meet Commander in Chief, U.S. Pacific Command, and Service-unique mission requirements in the most efficient and effective manner by evaluating the feasibility of forming a joint meteorological and oceanographic center in Hawaii to ensure joint requirements are efficiently and effectively met by collocating the Naval Pacific Meteorology and Oceanography Center and Joint Typhoon Warning Center, Pearl Harbor, and the Air Force 17th Operational Weather Squadron at Hickam Air Force Base and by consolidating overlapping meteorological and oceanographic functions.

Revised

AF Position: Non-concur.

Rationale: Organize, train, and equip are Service functions. Efficiency, effectiveness, and reduction of duplication of effort are also Service responsibilities clearly specified in Title 10.

2.b. We recommend that the Director for Operations, U.S. Pacific Command, perform a theater-wide evaluation of meteorological and oceanographic support to ensure Navy and Air Force meteorological and oceanographic Services meet Commander in Chief, U.S. Pacific Command, and Service-unique mission requirements in the most efficient and effective manner by evaluating the feasibility of forming a joint meteorological and oceanographic center in Japan to ensure joint requirements are efficiently and effectively met by collocating the Naval Pacific Meteorology and Oceanography Center, Yokosuka, and the planned Air Force 20th Operational Weather Squadron at Yokota Air Base and by consolidating overlapping meteorological and oceanographic functions.

Revised

AF Position: Non-concur.

Rationale: Not a CINC function. See rationale for Recommendation 2a above.

2.c. We recommend that the Director for Operations, U.S. Pacific Command, perform a theater-wide evaluation of meteorological and oceanographic support to ensure Navy and Air Force meteorological and oceanographic Services meet Commander in Chief, U.S. Pacific Command, and Service-unique mission requirements in the most efficient and effective manner by reviewing meteorological and oceanographic services provided at the Naval Pacific Meteorological and Oceanographic Center, San Diego, California, and the 11th Operational Weather Squadron at Elmendorf Air Force Base, Alaska.

Revised

AF Position: Non-concur.

Rationale: Not a CINC function. See rationale for Recommendation 2a above.

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Page 2

Meteorological and Oceanographic Support in the Pacific Theater Audit Report Analysis

This analysis addresses each section of the draft report in order.

Executive Summary (Page i)

Introduction (Page i)

This report provided only a cursory evaluation of "the effectiveness and efficiency" of Pacific METOC support and only recommended evaluation of possible improvements.

Background (Page i)

This section of the report lists portions of instructions to highlight CINC overarching coordination duties but ignored Title 10 U.S.C. and other instructions detailing Service responsibilities to "organize" forces to support the CINC.

Page i, Second paragraph, First sentence. Replace with "Chairman of the Joint Chiefs of Staff Instruction 3810.01A, "Meteorological and Oceanographic Operations," February 25, 1998, says the Services, where feasible, assist other Services in accomplishing METOC functions, to include coordination of research and development efforts to avoid duplication and to ensure commonality in the development of METOC capabilities."

Rationale: Accuracy. The sentence in the audit report was inaccurately quoted and was misleading. Furthermore, Title 10 U.S.C. explicitly places responsibility upon each Service Secretary to fulfill (to the maximum extent practicable) the current and future operational requirements of the unified and specified combatant commands and to foster effective inter-Service cooperation and coordination to provide for more effective, efficient, and economical administration and to eliminate duplication.

(See Title 10 U.S.C., Subtitle B, Part I, Chapter 303, Sec. 3013., Paragraph (c), Secretary of the Army; Title 10 U.S.C., Subtitle C, Part I, Chapter 503, Sec. 5013. Secretary of the Navy, Paragraphs (b) and (c); and Title 10, Subtitle D, Part I, Chapter 803, Sec. 8013. Secretary of the Air Force, Paragraphs (b) and (c).)

Page i, Second paragraph, Second sentence. Delete "the primary"

Rationale: Accuracy. The statement is misleading as written because the Air Force and Navy are not primary providers to "other governmental agencies" and "international partners."

Objectives (Page i)

Page i, Third paragraph, Second sentence. Delete sentence.

Rationale: Accuracy. This report did not focus on evaluating the Military Departments' use of DoD infrastructure to determine whether meteorological and oceanographic

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services were provided in the most effective and efficient manner in the Pacific theater. The audit report instead recommended that the PACOM Director for Operations do the task the IG said they would do. However, as has been previously quoted from Title 10 U.S.C., this is the responsibility of the Service Secretaries.

Results (Page i and ii)

Page i, Fourth paragraph, Second and third sentences. Delete the sentences.

Rationale: Accuracy--the asserted conclusion is not backed by any evidence on the part of the DoD IG. The statement concerning METOC support at Kadena and Misawa Air Bases provided no information useful for determining opportunities for improvement and further stated each Service provided unique support implying no redundancy of mission. The report failed to recognize the consolidation already in effect in which the Air Force is responsible for aviation weather support to Navy flight crews. This report did not focus on evaluating the Military Departments' use of DoD infrastructure to determine whether meteorological and oceanographic services were provided in the most effective and efficient manner in the Pacific theater. The audit report instead recommended that PACOM staffers perform the task the IG said they would do. However, as has been previously quoted from Title 10 U.S.C., this is the responsibility of the Service Secretaries. This report provided no evidence to support the assertion that there are opportunities for savings and other efficiency improvements through collocation and consolidation. The preceding statement concerning not providing regional METOC services from joint centers provided no information about the efficiency or effectiveness of the current approach or a joint approach. The current METOC organizational structures match the operational unit structure of all component Services.

Summary of Recommendations (Page ii)

Air Force non-concurs with all of the recommendations. Furthermore, this report makes recommendations contrary to Title 10 U.S.C and the auditors should refrain from suggesting combatant commands perform those duties explicitly assigned to the Services.

Revised

BACKGROUND (Page 1)

Page 1, First paragraph, First sentence. Replace with "Chairman of the Joint Chiefs of Staff Instruction 3810.01A, "Meteorological and Oceanographic Operations," February 25, 1998, says the Services, where feasible, assist other Services in accomplishing METOC functions, to include coordination of research and development efforts to avoid duplication and to ensure commonality in the development of METOC capabilities."

Rationale: Accuracy (as stated above).

Revised

Page 1, First paragraph, Fourth and Fifth sentences. Delete the sentences

"Commander in Chief, U.S. Pacific Command Instruction 5420.9P, Meteorological and Oceanographic Group for the U.S. Pacific Command," established METOC Group U.S. Pacific Command (USPACOM), and assigns responsibilities to the Services and the National Oceanic and Atmospheric Administration for coordinating METOC issues and providing METOC support in the USPACOM area of responsibility. In addition, Commander in Chief, USPACOM Instruction 5420.9P states that the USPACOM senior METOC officer, under the guidance of the Director for Operations, USPACOM, and in

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cooperation with the lead METOC representative from each Service and the National Oceanic and Atmospheric Administration, is responsible for coordinating inter-Service METOC matters to ensure maximum use of JOINT METOC support in the Pacific theater."

Rationale: This instruction should be revoked and replaced with a MOA or MOU as required by DoD Instruction 4000.19, Interservice and Intragovernmental Support," 9 August 1995. Navy METOC assets within the PACOM AOR are not assigned to the combatant command but are assigned to Commander, Naval Meteorology and Oceanography Command, Stennis Space Center, MS. National Weather Service (NOAA) comes under the Department of Commerce. In order for PACOM to enter into an agreement with these groups, MOAs or MOUs with NOAA and the Navy should be accomplished (this would also apply to other combatant commands with JMAGs). Additionally, the specific roles and responsibilities of the JMAG (as set forth in Joint Publication 3-59 and CJCS 3810.01A) have to be compared to Title 10 U.S.C. responsibilities of the Services to foster effective cooperation and coordination between their own department and the other Military Departments and agencies of the Department of Defense to provide for more effective, efficient, and economical administration and to eliminate duplication. This may require a change in the purpose of the JMAG since it duplicates Services responsibilities required by Public Law. Additionally, the DoD IG failed to note the requirement for the Joint Interservice Regional Support Group's involvement in reaching cooperative agreements.

Military Department Responsibilities (Page 1)

Page 1, Second paragraph, First sentence. Comment. While Navy and Air Force METOC support is asserted by the auditors to be "fundamentally similar," there are in fact significant differences in the organizational structure, organizational missions, C2 relationships, concept of operations, and scope of regional responsibilities. The USAF and Navy follow distinctly different METOC "organize, train and equip" paths due to uniqueness of supported missions. USAF METOC personnel are in-house personnel permanently assigned and stationed in the theater and their reporting chain is through the theater air component commander. USAF METOC support to Army and USAF forces is operationally aligned. Navy METOC personnel are not in-house but are tenant units in the theater assigned under the command of the Commander, Navy Meteorology and Oceanography Command, Stennis Space Center, MS. The Air Force consolidates forecasting efforts at regional hubs to gain economies and efficiencies and develop a better-tailored forecast for our users. We go "light and lean" forward and focus greater resources and training functions at the Operational Weather Squadron. We've offered explanations of the reengineered concept of operations to the auditors several times and continue to be ready to explain reengineering affects operations.

Army (Pages 1)

Page 1, Third paragraph, Second sentence. Delete "the primary"

Rationale: Accuracy. The statement is misleading as written. See previous statement on Page 1, second paragraph.

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Navy (Pages 1)

Page 1, Fourth paragraph. Comment: Incomplete. The auditors did not articulate that all Naval Pacific Meteorology and Oceanography Centers (NPMOCs) are within the PACOM AOR but are not assigned to the combatant command. They are instead assigned to Commander, Naval Meteorology and Oceanography Command, Stennis Space Center, MS.

Rationale: Accuracy. The statement is misleading as written.

1995 Base Realignment and Closure (Page 2)

Page 2, Third paragraph, Third sentence. Comment: Balance concern. No documentation for the COMPACFLT decision is mentioned and coordination with CINCPAC through MGPACOM is not noted in the findings. (A copy of the MOA, MOU, or Host-Tenant Support Agreement documenting the continuing need for METOC services in the western Pacific was requested from the DoD IG auditors on 12 April 2001. As of 16 May 2001, the requested documentation had not been received.) This contrasts with findings (Pages 6, 7, and 8) where a lack of such supporting documentation is highlighted. Like PACAF organize, train, and equip decisions, the COMPACFLT decision appears to be consistent with the Service duty to organize METOC forces to meet CINC needs but is not identified in the findings as prompting PACOM review.

Air Force Reengineering Plan (Page 3)

Page 3, First paragraph. Comment: The excerpts from PAD 97-10 are incomplete to capture the scope of the program and fully describe the benefits of reengineered weather support. The Air Force leverages capability in the civil sector and in other departments to reap economies and efficiencies. We'd be happy to discuss this with the auditors.

Objectives (Page 3)

Page 2, Third paragraph, Second sentence. Comment. The draft audit report states "The overall objective of this self-initiated series of audits was to evaluate DoD METOC services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative METOC support to DoD and other governmental agencies." This report has done very little to achieve that goal. On Page 10, the report states "However, until an evaluation is performed to determine whether NPMOC Yokosuka and the planned 20th OWS could be collocated at existing DoD facilities already providing similar services, or at a single location, the most efficient use of personnel is unknown." On page 11, the report states "However, until an evaluation is performed to determine whether the 17th OWS could be collocated at the NPMOC/JTWC, Pearl Harbor, how the equipment could be used most efficiently is unknown." Additionally, Recommendations 1a, 2a, 2b, and 2c ask AF/XOW, CNO(N096) and/or the PACOM staff to perform evaluations that have been the objectives of the audit team for more than 14 months.

DoD Meteorological and Oceanographic Support in the Pacific (Page 4)

Page 4, First paragraph, First sentence. Comment. While this sentence is partially correct (Air Force and Navy do provide METOC services from JTWC), it is misleading.

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This statement implies there is a requirement to provide support from "joint" centers. It further implies great value in merely operating from under the same roof. This may be due to a misinterpretation by the DoD IG of USCINCPACINST 5420.9P which says "maximize the utilization of joint environmental support for operations involving Service components and US civil agencies performing equivalent functions." In other words, this instruction says PACOM and US civil agencies should leverage each others' support--it does not say PACOM service components should exist in "joint facilities."

Page 4, First paragraph, Fourth sentence. Delete the sentence "However, METOC Group, USPACOM, did not evaluate whether the 17th OWS and the planned 20th OWS could be collocated at existing DoD facilities already providing similar METOC services, or at a single location in the Pacific theater, and overlapping METOC functions consolidated."

Rationale: Accuracy. The statement is misleading and implies that the METOC group has approval authority over Service organize, train, and equip functions. The METOC Group can coordinate interservice METOC matters and requirements and it can make recommendations for the acquisition of facilities and capabilities to meet common component operational needs but it is the Services' Title 10 responsibility to organize, train and equip their units to support the requirements of the CTNC.

Page 4, First paragraph, Sixth sentence. Delete the sentence "As a result, the Navy and the Air Force were not providing METOC support in the most efficient possible manner."

Rationale: This conclusion is unsupported--the auditors provided no evidence to support their recommendation and instead inappropriately recommended that PACOM staffers conduct just such an evaluation.

Navy Air Force Cooperative Initiatives (Page 4)

Reduction Of Base Aviation Support (Page 4)

Page 4, Third paragraph, Third sentence. Replace the sentence "The NAVAf Agreement recommends that the Navy and the Air Force require the Service owning the base to be responsible for providing all aviation forecasts needed to support local operations in addition to Service-unique support needed to meet mission requirements." with the following sentences "The NAVAf Agreement recommended that Base Aviation Weather support be consolidated at Andrews AFB and Kadena AB using the precedent set at Keflavik and Misawa. That is, the service owning the base (Air Force, in these cases) takes responsibility for aviation weather. The tenant (Navy) satisfies any service-unique needs."

Rationale: Accuracy. The paraphrased NAVAf recommendation was misleading and implied that consolidation of all support within a single facility was the purpose of the recommendations. The initiative was to explore opportunities to reduce duplication of functions at sites where Services operate flight forecast facilities or weather stations and were providing similar operational support.

Page 5, First paragraph, Last sentence. Comment: This is internally inconsistent in the report. The author of the recommendation section states that Kadena meteorological and oceanographic support provided by the Air Force and Navy needs to be collocated to improve operational efficiency while the author of this section accurately states that overlapping operational functions have already been consolidated.

Joint METOC Center Support (Page 5)

Page 5, Second paragraph, Last sentence. Delete the last sentence "As of March 2001, the Navy and the Air Force had not provided documentation to support their conclusion that consolidating regional METOC support centers would not improve the efficiency and effectiveness of operational support in the theater."

Rationale: Accuracy. We're happy to provide a copy of the language of the initiatives to the audit team to show this is overcome by events. The report quoted the NAVAf initiative out of context—the auditors appear to have misunderstood the initiative and the units involved. The units to be studied in the Pacific theater were the Naval Western Oceanography Center and the Pacific Weather Support Unit (since closed) and also Guam (since closed) and the Korean Forecast Unit (since closed). Outside of the Pacific Theater, the Air Force had the European Forecast Unit at Traben-Trarbach, GE (since closed) and the Navy had the Naval Oceanography Command Center at Rota, SP. Within the CONUS the Air Force had the ACC Weather Support Unit at Langley AFB (since scaled down to that of a Combat Weather Team) and the Navy had the Naval Eastern Oceanography Center at Norfolk, VA. The units under consideration were rejected due to the unique mission and areas of responsibilities, and consolidation would have been more costly than the potential benefits to be gained. Regardless, one or more units in each pair under consideration have closed and this initiative was properly closed in 1999. It is explicitly a Title 10 U.S.C. Service responsibility to organize forces to meet the requirements of the combatant commands and to provide for more effective, efficient, and economical administration and to eliminate duplication. We choose to use the NAVAf process to evaluate potential areas of cooperation and interoperability concerning METOC services provided by the Navy and Air Force.

Model for Future Cooperative Efforts (Page 5)

Page 5, Third paragraph. Comment: The Air Force still maintains that the JTWC is not a suitable model for providing joint METOC Support. It is explicitly a Title 10 Service responsibility to organize forces to meet the requirements of the combatant commands and to provide for more effective, efficient, and economical administration and to eliminate duplication. We use the NAVAf process to evaluate potential areas of cooperation and interoperability concerning METOC services provided by the Navy and Air Force.

Furthermore, the Joint Typhoon Warning Center is not truly a Joint unit. Air Force METOC personnel are in house and report through to the air component of PACOM, while the Navy METOC personnel are tenants in the theater and are assigned under the Commander, Naval Meteorology and Oceanography Command, Stennis Space Center, MS.

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In the wake of the fleet's catastrophic loss of life and equipment due to a typhoon, in 1959 the Air Force agreed to provide the Director of the center and since has agreed to provide satellite tropical cyclone reconnaissance and additional billets to the "Joint" Typhoon Warning Center. The Navy retains the "nominal commander" billet established in 1959. In order for the unit to be truly Joint, PACOM would have to make all billets Joint. JTWC is actually a hybrid unit composed of Navy and Air Force METOC personnel administratively controlled by their respective Service chains of command. The audit team seems to be misled by the word "Joint" in the title.

Using this model for JTWC and any regional hubs that would combine would require a significant number of Joint billets. In order to be truly interoperable and effective, the unit must be completely integrated as a Joint unit, otherwise only the façade of a "Joint" unit will be achieved. Additionally, interoperability gains between METOC units would be at the expense of interoperability and integration of Air Force METOC units with C2 centers. Furthermore, costs already sunk for standing up its OWSs would have to be expended. We see no economies or efficiencies to justify this expense.

Other Cooperative Initiatives (Page 5)

Page 5, Fifth paragraph, Last sentence. Delete sentence.

Rationale: Regional center consolidation in Hawaii was considered during NAVAf, again in 1998, and again in 2000. The Air Force has expended its resources to provide the Air Force and Army with a technological advantage to support warfighting requirements. AFW Reengineering provides advanced hardware, computing tools and training to Air Force METOC personnel using the latest technology to aid their mission in support of the warfighter. The auditors suggestion of a single multi-purpose facility encompassing all applications and serving everyone as the most efficient and effective way to provide METOC support is not backed by cost-benefit data. It ignores the difference between a reengineered Air Force and the traditional Navy concept of operations. With a virtual center, the Navy and Air Force will achieve a coherent networked center in Hawaii without having to spend additional funding to build new facilities, and relocate personnel, communications lines, and equipment.

Regional METOC Support (Page 6)

Page 6, First paragraph, First sentence. Delete the sentence.

Rationale: Accuracy. The first sentence is inaccurate. The reasons for not consolidating Hawaii METOC facilities are not due to MG PACOM failure to evaluate. The reasons are based in the Service unique organization of weather assets (according to Title 10 U.S.C.) and should be addressed to the Services. The auditors also did not consider the effectiveness, efficiency and cost savings obtained concerning consolidation of the AF METOC mission in the existing C2 centers. The auditors consistently seek to couch efficiencies in Air Force versus Navy using past concepts of operations and fail to address economies and efficiencies reached outside DoD.

METOC Support in Hawaii (Page 6)

Page 6, Third paragraph, First sentence. Delete sentence.

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Rationale: Accuracy. This asserted conclusion is not backed by cost-benefit data. Even though the audit has been ongoing for more than 14 months (since Feb 2000), the DoD IG auditors have failed to provide any evidence of cost savings in conjunction with any recommendation. What the auditors have offered is an unsubstantiated assertion. The audit report specifically says:

"However, until an evaluation is performed to determine whether NPMOC, Yokosuka, and the planned 20th OWS could be collocated at existing DoD facilities already providing similar services, or at a single location, the most efficient use of personnel is unknown." (Page 10, Third paragraph, Fifth sentence)

"However, until an evaluation is performed to determine whether the 17th OWS could be collocated at the NPMOC/JTWC, Pearl Harbor, how the equipment could be used most efficiently is unknown." (Page 11, Third paragraph, First sentence)

Any potential benefits from collocation or consolidation should be addressed at the Service level in coordination with involved commanders and MAJCOM functional manager. Any analysis must extend beyond weather functions and address the overall integration and interoperability with the C2 and warfighter community.

Page 6, Third paragraph, last sentence. Delete the sentence.

Rationale: It is a Title 10 U.S.C. Service responsibility to organize, train, and equip the force.

Page 7, First paragraph. Delete the entire paragraph and attached memo from PACOM, and any references to the memo from PACOM from the report.

Rationale: This is clearly a Title 10 U.S.C. responsibility given to the Service Secretaries.

(See Title 10 U.S.C., Subtitle B, Part I, Chapter 303, Sec. 3013., Paragraph (c), Secretary of the Army; Title 10 U.S.C., Subtitle C, Part I, Chapter 503, Sec. 5013. Secretary of the Navy, Paragraphs (b) and (c); and Title 10, Subtitle D, Part I, Chapter 803, Sec. 8013. Secretary of the Air Force, Paragraphs (b) and (c).)

In addition, in the Vice Director, Joint Staff's reply (DJSM-898-00, 30 Oct 2000) to the first draft Audit Report on the Management and Oversight of the DoD Weather Program, the auditors were advised to "protect Service-specific needs consistent with the Services' responsibilities under Title 10, United States Code."

The auditors were also reminded via the AF/XOW memorandum, DoD IG Audit of Meteorological and Oceanographic Services, 26 Jan 2001, that the IG staff had "organizational, training, and equipage implications; yet we've been told the next report(s) will be sent to the CINCs for action. Sending the reports to an inappropriate office of responsibility extends the staffing requirements and unnecessarily complicates the administrative process." The auditors referenced other correspondence applicable to the report but failed to include this memo. It is attached so this oversight may be rectified.

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Revised,
Pages 6-7

Additionally, the CINCUSPACOM response (dated 2 Mar 01) to your memorandum, Evaluation of Weather Support in the Pacific, 1 Feb 2001 said "We agree with the PACAF Commander's conclusion that given current manning, equipment and existing infrastructure it is appropriate that the 17th Operational Weather Squadron (OWS) be established at Hickam AFB. We also agree with his assertion that the "organize, train, and equip" function of weather support is a Service responsibility." In the attached memo from PACAF/CC to USCINCPAC, 20 Feb 01, it says "we believe your response to the DoD IG memo should be to point out that the organize, train, and equip function of weather support is a service responsibility, and to direct future inquiry to the service staffs."

Despite the explicit language in Title 10 U.S.C. and in the four cited memoranda, the auditors chose to include this misleading information in the draft audit report. Even more significant is that on 1 February 2001 (12 months after the audit began) and 29 Mar 2001 (14 months after the audit began), the audit team had not made any measurable progress toward the stated overall objective of the audit which was to "evaluate DoD meteorological and oceanographic services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative meteorological and oceanographic services and support to DoD and other governmental agencies." In both cases, the DoD IG asked PACOM to perform this exact task even though organize, train, and equip issues as well as efficiency, effectiveness, and reduction of duplication are clearly Service Title 10 U.S.C. responsibilities.

The Navy and Air Force have different organizational and command and control structures and relationships and any potential benefits from collocation or consolidation should be addressed at the Service level in coordination with involved commanders and MAJCOM functional managers. Any analysis must extend beyond weather functions and address the overall C2 support.

Page 7, First paragraph, Sixth sentence. Comment. While JTWC may be a good location to develop and expand inter-Service synergy, the mission of JTWC is very clear cut—"Located at Naval Base Pearl Harbor, Hawaii, the Joint Typhoon Warning Center (JTWC) is the U.S. Department of Defense agency responsible for issuing tropical cyclone warnings for the Pacific and Indian Oceans." Air Force Weather is focused on our mission of supporting our C2 and warfighting customers. The mission of JTWC remains as it has been for 42 years—we believe the auditors will agree that it is more than adequately resourced for that function.

Page 7, First Paragraph, Eighth sentence. Delete the sentence "Although the Commander in Chief, USPACOM, states that the Commander, PACAF, conducted an evaluation to determine the validity of a separate weather facility at Hickam Air Force Base, the Commander, PACAF, states that his staff was in the process of preparing an evaluation of weather support in the Pacific."

Rationale: The statement is not accurate. Although the DoD IG quoted the PACOM memorandum correctly, the PACOM memorandum was incorrect. The PACAF/CC

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memo said "Our staff addressed the DoD IG memorandum. We have included (Atch 2) a point-by-point analysis." The analysis was included in the memo sent to the DoD IG. It was an analysis of all of the factually incorrect information in the DoD IG memorandum sent to PACOM. PACOM did not officially coordinate the response with their Service Components--this would have caught the error.

METOC Support in Japan (Page 7)

Page 7, Second paragraph, First sentence. Delete sentence.

Rationale: Accuracy. This asserted conclusion is not backed by cost-benefit data or analysis. (See previous comments concerning the similar statement made on Page 6, Third paragraph, First sentence.)

Base-Level METOC Support (Page 8)

Page 8, Fourth Paragraph. Delete entire paragraph.

Rationale: Post hoc and non sequitur. The argument that the Navy and Air Force provide services from opposite sides of the runway at Kadena and Misawa because AF/XOW and CNO(N096) did not fully consider collocating facilities and therefore that an inefficiency exists are irrelevant issues. The related NAVAf issue was to reduce duplication of similar operational support--in this case, it was aviation weather support. We did that. The Service owning the base does provide routine aviation support while the tenant Service provides Service-unique support. This issue should be addressed by the Services to determine efficiencies may be achieved by consolidation, they should proceed as required. Before making a decision, the Services should evaluate the impact of such a move on customer support.

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METOC Support at Misawa Air Base (Page 9)

Page 9, Third paragraph, Second line. Replace with "The Navy and Air Force have implemented the NAVAf agreement initiative to reduce overlapping base aviation support by consolidating similar operational aviation support in one location.

Rationale: Accuracy. The issue was to consolidate and reduce overlapping support and not to simply consolidate all METOC support. Before making any further decisions, the Services should evaluate the impact of such a move on customer support.

Revised,
Pages 9-10

Page 9, Third paragraph, Third line. Delete this sentence.

Rationale: It has not been shown that combining these units would be a prudent decision. No factual foundation or analysis was presented supporting the stated increase in operational efficiency. Before making any further decisions, the Services should evaluate the impact of such a move on customer support.

Optimum Use of DOD METOC Resources (Page 10)

Page 10, First paragraph. Delete this paragraph.

Rationale: Accuracy. This asserted conclusion lacks factual foundation. No information or analysis was presented supporting any increase in operational efficiency. In fact, this very audit contradicts this statement on page 10, third paragraph; "until an evaluation is performed ...the most efficient use of personnel is unknown." On page 11, third paragraph, the audit report states; "until an evaluation is performed...how the equipment

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could be used most efficiently is unknown." Additionally, Recommendation 1 asks the Oceanographer of the Navy and Air Force Director of Weather to reevaluate NAVAf issues on consolidation to ensure things are being done in the most efficient and effective manner. Finally, Recommendation 2 asks the PACOM Director of Operations to perform an evaluation to ensure the METOC service of the Navy and Air Force are done in the most efficient and effective manner. These are Service responsibilities under Title 10 U.S.C.

Personnel Resources at Regional Centers in the Pacific (Page 10)

Page 10, Third paragraph, First sentence. Delete the sentence.

Rationale: Accuracy. This asserted conclusion lacks factual foundation. No factual foundation was presented supporting any increase in efficiency. In fact, this paragraph contradicts the statement on page 10, third paragraph, that "until an evaluation is performed ...the most efficient use of personnel is unknown."

METOC Equipment at Regional centers in the Pacific (Page 10)

Page 10, Fourth paragraph, First sentence. Delete the sentence.

Rationale: Accuracy. This asserted conclusion lacks factual foundation. No factual foundation was presented supporting any increase in efficiency. In fact, this paragraph contradicts the statement on page 11, third paragraph, that "until an evaluation is performed ...how the equipment could be used most efficiently is unknown."

Page 11, Fourth paragraph. Delete the paragraph.

Rationale: Accuracy. This paragraph wrongfully suggests that METOC Group, USPACOM, has approval authority over the organization of Navy and Air Force METOC units. Title 10 clearly states this is a Service responsibility to organize, train, and equip. Furthermore, the Navy METOC units are not assigned to the combatant command and are therefore even further removed from MG USPACOM authority. Additionally, the DoD IG failed to provide any factual foundation that collocating regional or base-level organizations would result in any efficiency, effectiveness or reduction in duplication.

FUTURE METOC SUPPORT CONSIDERATIONS (Page 12)

Page 12, First paragraph. Delete the entire paragraph.

Rationale: This is a faulty analogy. Title 10 U.S.C. does give the Services (not the combatant commands) the responsibility of cooperating with other Services to improve efficiency, improve effectiveness and reduce duplication of effort. The National Security Act of 1947 also makes the Air Force responsible for weather support for the Air Force and most Army needs. The Air Force has organized itself to provide support for itself, the Army, combatant commands and other customers. Consolidating with Navy units to create a Joint unit is a command relationship challenge because they do not belong to the combatant command even though they are in their geographical area of responsibility. NPOESS is a Tri-agency program in Phase I of the Acquisition Cycle and is still undergoing requirements definition before the first expected satellite launch in 2010. Sensors are still being down-selected and the total system performance contractor will not even be selected before 3QCY02. Although the Air Force agrees the NPOESS Integrated

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Program Office (IPO) is performing well at this stage of the program, it is premature to assess the efficiency and effectiveness of this system. We additionally note that the audit team members report they have not evaluated nor even visited the NPOESS IPO.

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

26 JAN 2001

MEMORANDUM FOR DIRECTOR, LOGISTICS SUPPORT DIRECTORATE
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/XOW
1490 Air Force Pentagon
Washington, DC 20330-1490

SUBJECT: DoD IG Audit of Meteorological and Oceanographic Services

References: (a) DoD IG Memo, Audit of Meteorological and Oceanographic Services (Project No. D2000LG-0102), 8 February 2000

(b) DoD IG Report No. D-2001-018, Management and Oversight of the DoD Weather Program, 14 December 2000

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We are increasingly concerned about the progress of subject audit. On 8 February 2000, your office informed the Joint Staff and Services on the objective of the audit and several of the visits (Reference (a)). The audit team subsequently briefed the Air Force that the audit would consist of a planning and survey phase followed by a verification (audit) phase. Even though the planning and survey phase ended in the first half of 2000, it appears the specific audit objectives and scope of the audit continue to evolve. Improved coordination between our offices would reduce the strain put on our resources and allow us to plan and respond more effectively.

We also have a concern about the report's recognition of the Services' responsibility to organize, train, and equip forces. Questions your staff asked certainly have organizational, training, and equipment implications; yet, we've been told the next report(s) will be sent to the CINCs for action. Sending the reports to an inappropriate office of responsibility extends staffing requirements and unnecessarily complicates the administrative process.

In order to assist your office in preparing the most objective and meaningful audit reports, we stand ready to help identify appropriate OPRs for subsections of the report. Additionally, request the date, and locations to be visited; and as much advance notice of questions to be asked as possible. This enables us to provide better more complete information.

DAVID L. JOHNSON, Brig Gen, USAF
Director of Weather
DCS/Air and Space Operations

cc: AF/XO
CNO (NO96)
DAMI

*The Director, Readiness and Logistics Support Directorate, responded to these concerns in a memorandum on February 5, 2001.

Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector General, DoD, who contributed to the report are listed below.

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INTERNET DOCUMENT INFORMATION FORM

A . Report Title: Meteorological and Oceanographic Support in the Pacific Theater

B. DATE Report Downloaded From the Internet: 11/01/01

C. Report's Point of Contact: (Name, Organization, Address, Office Symbol, & Ph #): OAIG-AUD (ATTN: AFTS Audit Suggestions)
Inspector General, Department of Defense
400 Army Navy Drive (Room 801)
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D. Currently Applicable Classification Level: Unclassified

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F. The foregoing information was compiled and provided by:
DTIC-OCA, Initials: __VM__ **Preparation Date** 11/01/01

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